JUNE 8, 1935

Railway Age

FOUNDED IN 1856

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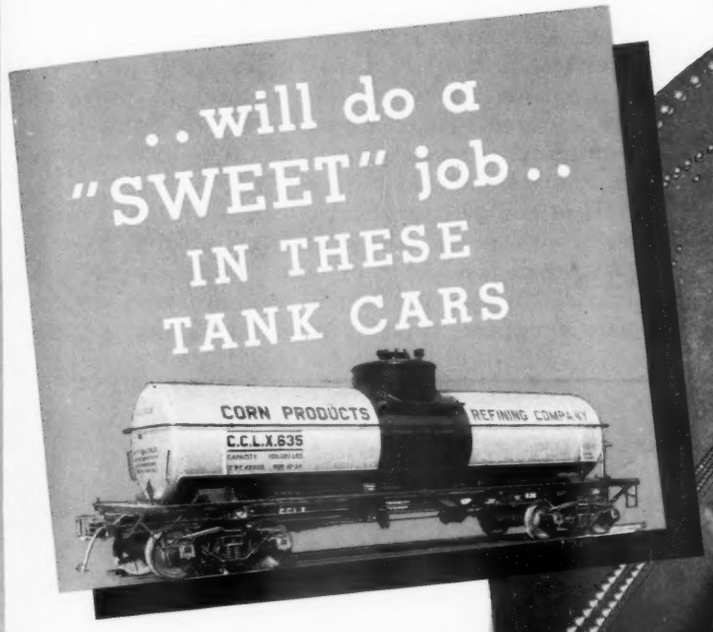
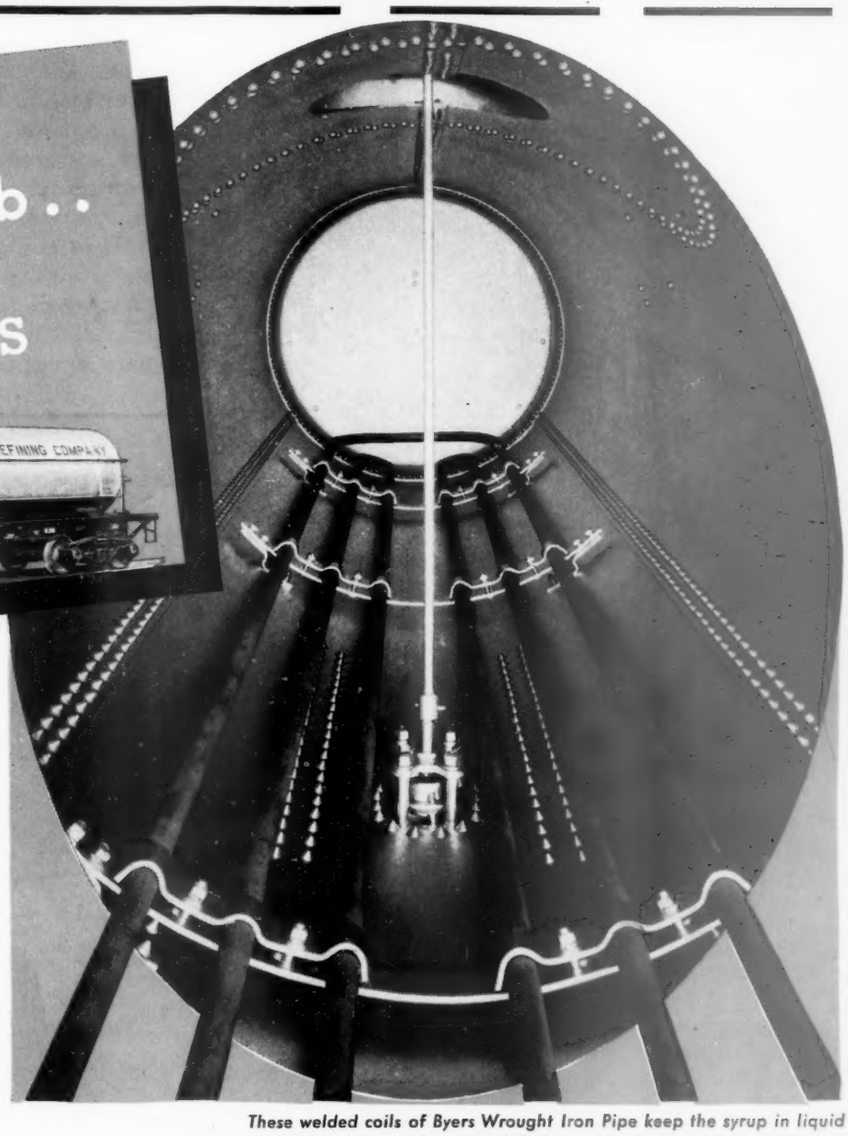
BYERS WROUGHT IRON PIPE





These welded coils of Byers Wrought Iron Pipe keep the syrup in liquid state during cold weather. Note 180 degree bends on a radius of 8 inches.

HEATING coils, cooling coils—services where corrosion and vibration are a problem, those are the jobs for which leading railroad engineers specify Byers Wrought Iron Pipe. And for a very good reason—this railroad stand-by of 71 years has behind it long records of service in practically every tough railroad use.

Illustrated is a recent installation in one of the 75 syrup tank cars built for the Crystal Car Lines, a subsidiary of the Corn Products Refining Company. Over 36 tons of Byers Wrought Iron Pipe was used for heating coils. This is another example of the recognition given Byers Wrought Iron Pipe by leading engineers and executives.

May we tell you more about Wrought Iron's long service records and show you other recent installations in railroad service? Ask a Byers Engineer or write our Engineering Service Department at Pittsburgh for complete information. A. M. Byers Company, Established 1864. Pittsburgh, Boston, New York, Philadelphia, Washington, Chicago, St. Louis, Houston.

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Diesel Electric Locomotives in the United States

1923

Original Demonstrator

1925

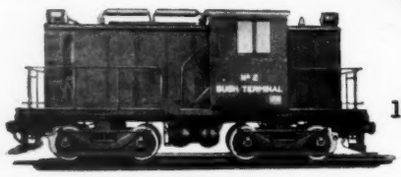
C.R.R. of N. J. 300 HP.

1927

Long Island 600 HP.

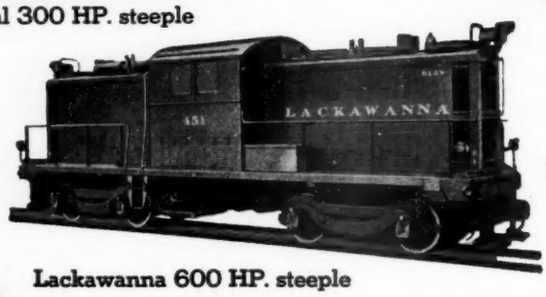
1929

Erie R.R. 800 HP.



1931

Bush Terminal 300 HP. steeple



1933

Lackawanna 600 HP. steeple

As Originated and Developed by

1935

Ill. Central 1800 H

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Railway Age

With which are incorporated the Railway Review, the Railroad Gazette and the Railway Age-Gazette. Name registered U. S. Patent Office.

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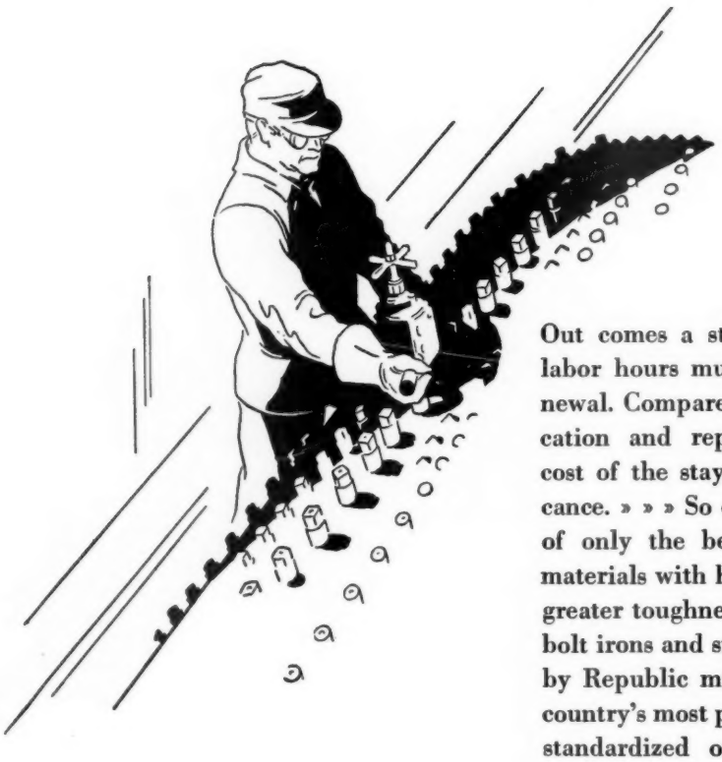
REDUCE STAYBOLT RENEWALS

by Using Modern Material



Out comes a staybolt!—and expensive labor hours must be spent to make renewal. Compared with the cost of application and replacement, the material cost of the staybolt fades into insignificance. » » » So economy dictates the use of only the best staybolt materials—materials with higher fatigue resistance; greater toughness. » » » Such alloy staybolt irons and steels have been developed by Republic metallurgists. Some of the country's most progressive railroads have standardized on them, with resulting lowered costs. » » » With Agathon Staybolts you can depend on getting full service life from every bolt—on getting full returns from your investment in both labor and materials. » » » Use Agathon Alloy Staybolt materials for lowered maintenance costs. » » » » » » »

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RAILWAY AGE

The N. R. A. Decision, Business and the Railways

The railways will benefit by a number of important recent developments. The Supreme Court's decision in the railroad pension case already is saving them at the rate of perhaps $30,000,000 a year, and will save them more as time passes. They were not subject to the National Industrial Recovery Act, but the Supreme Court's decision holding it unconstitutional, which was plainly forecast by its decision in the pension case, probably will indirectly cause both an increase in their traffic and a reduction of their operating costs. The two decisions make it practically certain that much other legislation being urged upon Congress, especially by the railway labor unions, which would be highly inimical to the railways, would speedily be held unconstitutional.

The question regarding the NRA decision which most concerns the railways is as to the way it will affect general business and, therefore, railway traffic. Its immediate result undoubtedly will be to cause some uncertainty and confusion, and thereby to accelerate the decline of general business activity which recently has been occurring. It seems certain within a few months, however, to stimulate competition, production, commerce and traffic.

Business Before and Under NRA

In attempting to forecast the probable long-range effects of the decision it will be helpful to recall the fluctuations in general business that have occurred within the last three years and the reasons for them. The real bottom of the depression was reached in August, 1932. Freight car loadings were then 52.2 per cent less than they averaged in 1925-1929. There was improvement throughout the last one-third of 1932 as a result of which in December car loadings were 43.3 per cent less than in 1925-1929, an increase relatively since summer of 18 per cent.

Following the banking crisis in the first quarter of 1933 there occurred another and greater upturn in business, which actually was a resumption of the natural improvement that began in the last one-third of 1932. Car loadings normally increase about 5 per cent between March and July. In 1933 they increased 14 per cent between March and May, 24 per cent between March and June, and 33 per cent between March and July. Then NRA and other artificial influences began to be effective; in August, 1933, general business, and consequently car loadings, turned downward; and there has never since been any increase in the total production and distribution of commodities remotely approaching the increases that occurred in the last one-third of 1932 and in April-July, 1933. Throughout the thirty-four months since July, 1933, car loadings have fluctuated within narrow limits without any prolonged upward or downward trend, and finally in April-May, 1935, were relatively smaller than in June-July, 1933.

Increased Costs—Recovery Arrested

Other influences have helped to cause the stagnation that has prevailed for almost two years; but undoubtedly NRA has been one of its principal causes. As Dr. Frederick C. Mills has shown, the "boom" in April-July, 1933, followed the pattern of all previous recoveries from depression. Hourly wages in productive industries declined from an index number of 108 to 103 and selling prices from 111 to 106. Production increased, however, from 49 to 77, employment from 57 to 65, real earnings of labor from 86 to 94. Labor cost per product unit declined from 118 to 82, and profits in manufacturing largely increased. There were similar developments on the railways, resulting in net operating income increasing from $10,600,000 in March to $59,500,000 in June and $64,300,000 in July—the largest net that had been reported for any two consecutive months since 1930.

The trends in productive industries, as Dr. Mills has shown, were reversed under NRA. In the 18 months including the last half of 1933 and the year 1934 hourly wages increased from 103 to 124 and labor cost per product unit from 82 to 102. But production declined from 77 to 72; and profits in manufacturing were curtailed. Similar trends prevailed on the railways. Most durable goods are bought by business directly or indirectly with its profits. A continuance of the increase in profits occurring before NRA would have speedily caused revival of the durable goods industries. Increases in industrial production

and railway operating costs, and consequent curtailment of profits and prospective profits, helped postpone their revival.

Increased Production the Only Way Out

The Supreme Court's decision has made it possible for business largely to reverse NRA policies. Will business do so? Apparently some of its supposed leaders fear to do so. The country is being flooded with declarations from high business sources to the effect that NRA standards of working hours, wages and "fair competition" should be maintained. It is difficult to appraise the sincerity and purpose of these declarations, but they seem in large measure to disregard economic principles and realities. There is apparently ground for the suspicion that in many cases they are dictated by desire to continue restrictions of industrial competition which would maintain prices that increased competition would reduce. But the way out of the depression is not through prices that will render it possible to make small profits on a continued small volume of production and distribution. The only way out is through policies that will increase the total volume of production and distribution. This alone will make possible permanently and substantially increased profits and employment, reduction of government expenditures for relief, balancing of the federal budget and avoidance of uncontrolled inflation.

The continuance of depression and unemployment being principally due to continued stagnation in the durable goods industries, the vital question regarding working hours, wages, costs of production and prices is as to what policies as respects them will contribute most toward increasing effective demand for durable goods. The Brookings Institution, in its recent comprehensive analysis and appraisal of NRA, has demonstrated with detailed data that it has hindered revival of the durable goods industries by (1) increasing the production costs and prices of such goods, and (2) curtailing demand for them by curtailing the current and prospective profits of railroads, public utilities and other industries that are their largest buyers. Railroad net earnings and buying power have been curtailed also, of course, by the restoration of the 10 per cent deduction from basic wages.

NRA and Railway Costs

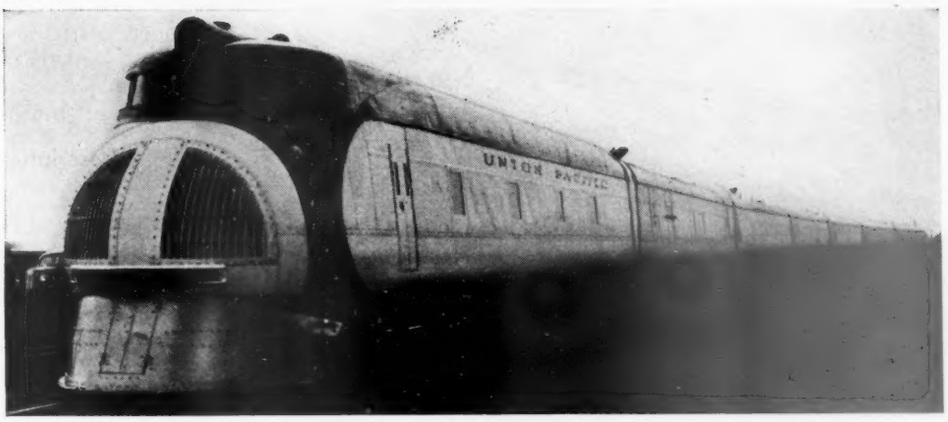
It was estimated by witnesses in the recent freight rate advance case that advances in the production costs and prices of the equipment, materials and fuel that railways buy would add $140,000,000 annually to railway operating expenses. A large part of the materials and supplies charged to operating expenses in 1934 were bought before the NRA advances in prices became fully effective. Exclusive of wages, railway operating expenses in 1934 were about $75,000,000 larger than in 1933. Exclusive of wages, they were $14,300,000 a month larger in the first two months of 1935 than in the first two months of 1934. The average cost of railway fuel in July, 1933, before NRA became effective, was $1.87 per ton. It advanced steadily thereafter until throughout the last half of 1934 it averaged $2.25, or 20 per cent higher than in July, 1933.

The fact cannot be disregarded that NRA caused advances in hourly wages which ranged in the durable goods industries from 8 to 53 per cent, and probably averaged 25 per cent. Regardless of the number of hours employees work, the hourly wage represents the labor cost of production to the employer. Prices must be made what buyers are able and willing to pay if there is to be created the increased effective demand for commodities essential to a largely increased production; but no industry can make prices in disregard of its labor and other production costs. It seems unlikely that those unable to maintain NRA prices will long maintain NRA working hours and wages. At any rate, the prospect is that increased competition will bring reductions in prices of many things railways buy.

Decision Will Stimulate Recovery

One important effect of the Supreme Court's decision is to destroy the NRA codes adopted for the operators of buses and trucks. It has been contended by some persons that highway carriers should not be subjected to regulation by the Interstate Commerce Commission because they were subject to regulation by NRA. Whether highway carriers will attempt to maintain the hours and wages fixed by their codes is conjectural; but at any rate NRA can no longer be used as an argument against extending to such carriers regulation similar to that applied to the railways. Operators of trucks rendering regular service are likely to favor regulation of highway transportation even more strongly than heretofore because the destruction of NRA removes whatever protection it may have afforded them from competition by "fly-by-nights."

The Supreme Court's NRA decision probably will prove the best thing for general business and all classes of the people that has occurred since the banks were closed and re-opened in March, 1933, because it makes possible at least a partial resumption of the operation of natural economic forces which has been for almost two years interrupted by artificial influences. The sole objective of all efforts toward recovery should be increases in the volume of production and distribution of commodities of all kinds. Government and the labor unions have been trying almost exclusively to increase the purchasing power of wage earners, in disregard of the fact that they buy principally consumers' goods, and that the depression has been principally due to lack of buying of durable goods by business. Many industries have been trying to follow price policies that would enable them to make profits on a small volume, in disregard of the fact that only policies that will increase production by increasing the demand for products will fully restore profits and prosperity. The NRA decision will help revive more normal operation of the law of supply and demand as respects both commodities and labor despite all that short-sighted government, business and labor may do to prevent it.



The M-10001 Ready for Service with 1,200 Hp. Diesel-Electric Power Plant and New Dining and Lounge Facilities

Union Pacific Streamliner, City of Portland, Enters Service

Demands of 39¾-hr. schedule between Portland and Chicago met by 1,200-hp. 7-unit articulated train

THE Union Pacific M-10001 Streamliner, City of Portland, Pullman-built, and equipped with an Electro-Motive, 1,200-hp. Diesel-electric power plant, left Portland, Ore., on June 6, on its maiden trip to Chicago on the fastest regular schedule ever established for transcontinental service—39¾ hr. Prior to departure, this seven-car, articulated train of aluminum alloy construction was exhibited at the Chicago & North Western station in Chicago on May 23 and on the following day left for Omaha, Neb., from which point it made three test runs to Portland, Ore. Here it was exhibited on June 4 and 5.

The dedication ceremonies at Portland on June 5 were made as a prologue to the Portland Rose Festival Association activities. The Portland queen of roses and her court of six princesses christened the train, while the governor of Oregon, the mayor of Portland and W. A. Harriman, chairman of the Union Pacific, delivered dedicatory addresses.

Under the 39¾-hr. schedule, which calls for an average of 57.1 m.p.h. for the 2,272 miles, including 12 stops, the train will "sail" from Portland on the first, sixth, eleventh, sixteenth, twenty-first and twenty-sixth, and from Chicago on the third, eighth, thirteenth, eighteenth, twenty-third and twenty-eighth of each month. It will leave Portland at 3:45 p. m., arrive at Omaha at 1:25 a. m. the second morning and at Chicago at 9:30 a. m. that morning; while, returning, it will leave Chicago at 6:15 p. m., arrive at Omaha at 2:10 a. m. and at Portland at 8 a. m. the second morning. Its scheduled stops include Pendleton and Huntington, Ore, Boise and Pocatello, Idaho; Green River, Rawlins and Cheyenne, Wyo.; North Platte and Omaha, Neb., and Boone, Cedar Rapids and Clinton, Iowa.

To maintain its schedule of 39¾ hr., speeds of 83 m.p.h. and more will be required. That portion of the run over the Union Pacific from Portland to Omaha, 1,784 miles, will be covered in 31 hr. 35 min., or at the rate of 56.5 m.p.h., while that from Omaha to Chicago over the Chicago & North Western, 488 miles, will be covered in 8 hr., or at the rate of 61 m.p.h. In this trip, the train will start at an elevation of 35 ft. at Portland and climb to an elevation of 8,013 ft. at the crossing of the Rocky Mountains.

The feasibility of the operation of this streamlined train on a fast schedule from the coast was demonstrated on October 23-25, 1934, when the M-10001 ran from Los Angeles, Cal., to New York, 3,248 miles, in 56 hr. 55 min., covering the 2,287 miles to Chicago in 38 hr. 52 min. As reported in the *Railway Age* of October 27,

Pullman Berth with Sliding Aluminum Panels—Folding Steps Give Entrance to Upper Berths

Method of Serving Light Meals to Passengers in the Rear Buffet Unit

1934, several speed records were established, the train operating at a maximum speed of 120 m.p.h., traveling the 508 miles from Cheyenne to Omaha at an average of 82.7 m.p.h. and on several stretches averaging 100 m.p.h.

The train is being operated for through business and, therefore, the assignment of sleeping accommodations in the three Pullman cars is being controlled at Chicago and Portland and reservations for local passengers from these terminals will not be sold until the day of departure. Regular first-class and coach tickets and low-rate, short-limit and summer tourist tickets are being honored on the train. For the present, railroad passes and special tickets are not accepted. Regular standard lower berth, upper berth, single-occupancy section and compartment and bed-room rates apply without surcharge. The extra length sections—tall men's sections—in the train are held for tall persons.

Description of the Equipment

The train consists of seven articulated body units having a total length of 454 ft. 11 in. and weighing 265 tons light, or 296 tons fully loaded. The seating capacity is 118, exclusive of the diner-lounge, which seats 39, bringing the total passenger-carrying capacity of the train up to 157. The train differs in several respects from the M-10001, described in the *Railway Age* of October 13, 1934. Its power car has been enlarged and the power plant increased from 900 hp. to 1,200 hp. A diner-lounge car has been added to the train. New trucks, of special design, incorporating welded steel construction, have been installed. Brakes, furnished by the New York Air Brake Company, include the Decelekron device designed to provide continuous maximum braking pressure without wheel locking or sliding. Dual Vapor steam boilers and steam heating, in conjunction with preheated air in the air-conditioning apparatus, have replaced the original system and one air-conditioning system for each body unit has been substituted for the two-car system. Each heating boiler has a capacity of 800 lb. of steam per hour, burns the same fuel as that used in the main Diesel engine and weighs only 1,100 lb. Steam pressures up to 125 lb. are available.

The first body unit of the revamped train, which is devoted entirely to the power plant and auxiliaries, is 60 ft. 3 in. long to the center of the first articulation. The body and underframe are a complete unit, made of strong aluminum alloys and having a removable bottom designed to allow lifting the entire body off of the engine and generator with minimum labor.

The second, a mail and baggage unit, is 64 ft. 6 in. between articulations, having a 33-ft. post-office apartment with an 8-ft boiler compartment forward of the mail apartment. The balance of the floor plan comprises the baggage compartment which contains the boiler water

The Dining Room Has Fixed Seats at the Large Tables and Chairs at the Small Tables

The Lounging Facilities Adjoin the Dining Room

supply tank, air-conditioning compartment for the following diner-lounge unit, and toilet, lavatory and linen locker facilities for the kitchen crew.

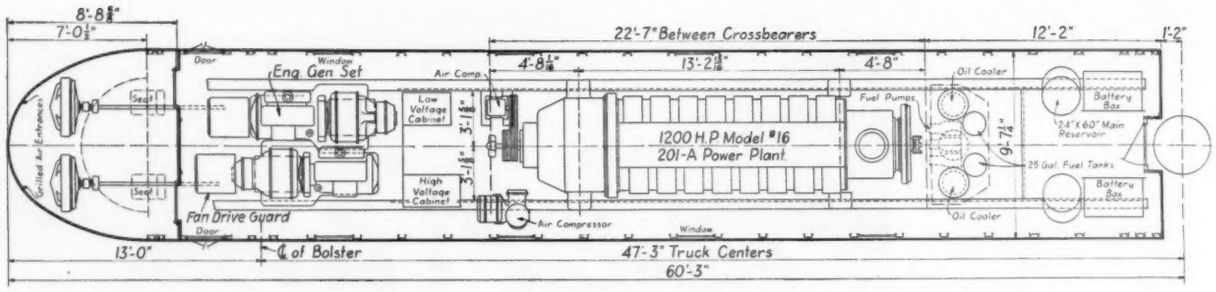
The third unit, a diner-lounge, is also 64 ft. 6 in. long. It has a kitchen 16 ft. 5⅜ in. long which contains a 5-ft. oil-burning range, a 3-ft. 3-in. steam table, mechanical refrigerators, etc. The dining room is 24 ft. 10 in. long, providing accommodations for 24 patrons; adjoining this is a card section which is also used for dining service, accommodating six; next is a 14-ft. 8-in. lounge room with a built-in desk, end table, nine portable metal chairs, stationery and periodical receptacles and built-in radio. A feature of the dining room is the provision of dining tables bracketed to the wall so as to eliminate the need for a supporting leg. Individual semi-lounge wood chairs are used on the small-table side, and built-in seats on the large-table side. All the chairs and seats in this unit are fitted with Dunlopillo seat and back cushions. The seat cushions next to the aisle are so arranged that they can be folded up against the seat backs for convenient passage to the seats at the window sides.

The fourth, fifth and sixth units are Pullman sleepers, developed especially for the U. P. streamlined trains. Each is 64 ft. 6 in. long. The fourth and sixth, called the "Oregon Trail" and the "Overland Trail," have eight sections, one compartment and one bedroom in each. The fifth body unit, called the "Abraham Lincoln," has ten sections, one compartment and one bedroom. Two sections on each Pullman unit are equipped with berths 6 in. longer than the present standard of 72¾ in. Sliding aluminum panels make each berth, in effect, a small compartment. The seventh, or rear unit of the train, is 72 ft. 2 in. long and has reclining seats to accommodate 54 passengers, with buffet in the rear end for serving light meals to passengers in their seats.

In the Pullman body units the individual folding washbasins and illuminated shaving mirrors, which were in the original train in both the upper and lower berths, have been eliminated from the upper berths; the folding arm rest in the seat backs of the sections has been eliminated, and all seat, back and head-rest cushions have been equipped with Dunlopillo rubber. The same material is used in all mattresses throughout. Each Pullman unit has three individual dressing rooms for men and two for women, affording more privacy and personal comfort than the dressing rooms on conventional trains. Each Pullman is completely air-conditioned and each berth separately ventilated. Freedom from drafts, dirt and noise is thus assured.

All of the trucks, designed especially for use on this train by engineers of the Union Pacific and Pullman-Standard Car Manufacturing Company, are of the four-wheel type with welded frames of Cor-Ten steel. The

The Winton 16-Cylinder, Two-Cycle Diesel Engine Installed in the Power Car



Floor Plan of the Leading Body Unit which Carries the Electro-Motive 1,200-Hp. Power Plant

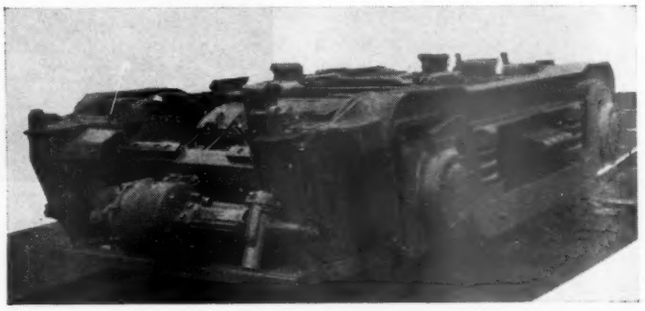
first two trucks are motor truck with 8-ft. 4-in. wheel base. The balance of the trucks are trailer type with 8-ft. 3½-in. wheel base. The motor trucks are of the equalizer type. The trailer trucks are designed with three groups of springs having main and intermediate bolster springs, and rubber discs and coil springs at the journal boxes. All trucks are fitted with SKF outboard roller bearings. The two motor trucks have 36-in. wheels and all of the trailer trucks have wheels 33 in. in diameter.

As described in the previous article, the exterior color scheme of the train is canary yellow on the sides and nose, and golden brown on the top and bottom. This color scheme was chosen to provide maximum visibility at all times. The train is thoroughly insulated and provided with a ventilating system which gives complete air change each four minutes. All windows are double and of shatter-proof plate glass. Lighting throughout the train is indirect, except for the adjustable night berth reading lamps in the Pullman units. All seats in the coach-buffet are adjustable to reclining positions and provided with adjustable foot rests.

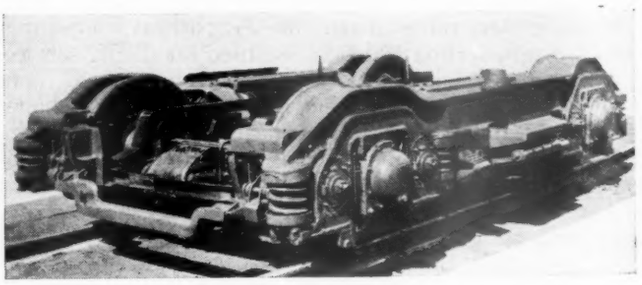
Larger Electro-Motive Power Plant Installed

The horsepower available for propulsion of the M-10001 originates in a Winton high-compression two-cycle Diesel engine, having 16 V-type, 8-in. by 10-in. cylinders. With a rated capacity of 1,200 hp., this is the most powerful two-cycle Diesel engine yet placed in railway passenger service. Power for all auxiliaries is taken from two auxiliary engine-driven generator sets, by Winton two-cycle engines of 110 hp. each, having 5-in. by 7-in. cylinders. The main Diesel engine is identical in design with that of the 900-hp., 12-cylinder engine in the first train, with the exception that four cylinders have been added to produce 1,200 hp. The engine is featured by a one-piece engine block, the crank case and cylinder block made of Cromansil steel, fusion-welded by the Lukenweld process. The seven main-bearing supports and caps are flame-cut from rolled plates of alloy steel. The heat-treated alloy steel crank shafts are supported in 6¾-in. bronze-face, main-bearing liners. The connecting rods are I-section, alloy steel, drop-forged and heat-treated. Pistons are a nickel-copper-aluminum alloy, operating in water-jacketed cylinder liners made of heat-treated nickel-chromium cast iron.

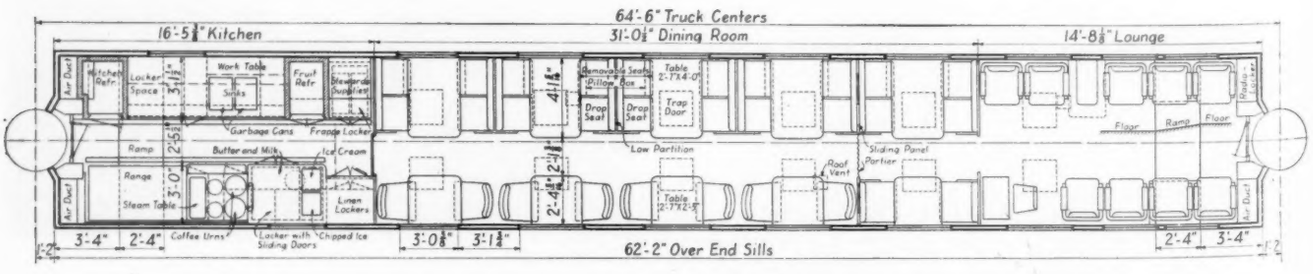
Each cylinder is fitted with an individual and easily removable cylinder head, made of the same material as the liners, having exhaust ports completely water-jacketed and secured to the cylinder block with heat-treated nickel steel studs. Each cylinder head is equipped with four exhaust valves, a unit fuel injector, and cylinder test and safety valve. The unit injector, one of the most distinctive parts of the engine, combines the fuel pump and the spray valve in a single compact unit, thus providing each cylinder with a complete and independent fuel injection system. The fuel oil is delivered to the injectors at the relatively low pressure of 25 lb. per sq.



One of the Power Trucks with Welded High-Tensile Steel Frames



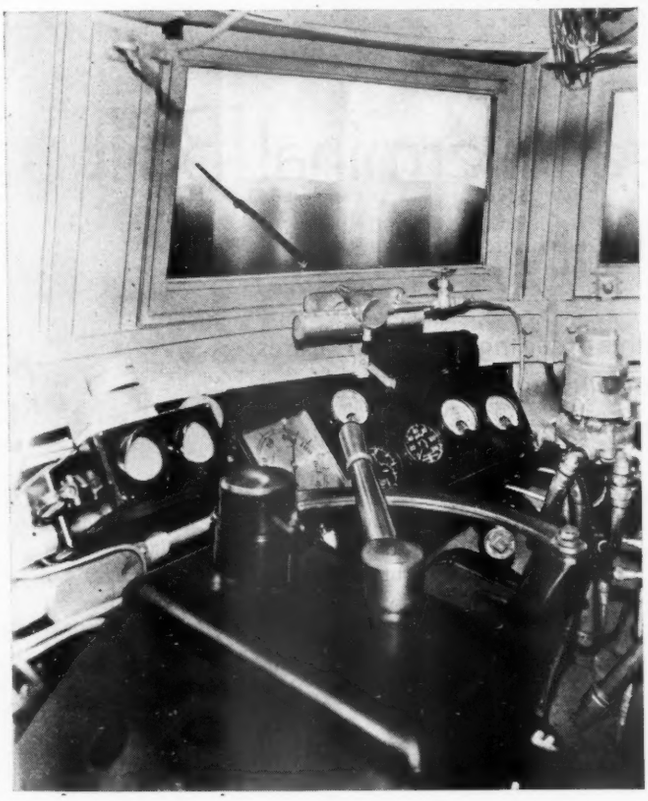
One of the Trailer Trucks, which Incorporates Special Rubber Discs and Coil Spring Supports at the SKF Journal Boxes, and Two Sets of Bolster Springs



Floor Plan of the Diner-Lounge Unit which Has Been Added to the U. P. Streamliner M-10001

in. This is the pressure required to fill the injector. The operation of the pump plunger, moved through a constant stroke by the injector rocker lever, increases this pressure to the amount needed for fuel injection purposes.

The engine cam shaft is of the built-up type with the cams shrunk, keyed and set-screwed on the shaft. Pressure lubrication is furnished by an oil pump which draws returned oil from the oil-pan sump. The scavenging air is furnished by a positive displacement-type blower, with the intake air thoroughly muffled. The governor is of the self-contained hydraulic type, supplemented by an overspeed trip, driven from the two cam shafts and fitted with a shaft for connecting linkage to the cab control. A centrifugal pump for cooling water and a double-



Control Equipment at the Operator's Station in the Cab

gear type for lubricating oil are driven from a helical spur-gear train at the blower end of the engine.

The electric transmission, supplied by the General Electric Company for the M-10001, consists of a generator directly connected to the 1,200-hp. Diesel engine, which supplies electric power through an automatic control system to four 300-hp. traction motors carried on the first and second trucks. From the operator's viewpoint, this electrical equipment provides notably simple operation. A small master controller determines the sequence of the operation of the motor and auxiliary switches, and also provides for series and parallel combination of the motors in either direction of train movement. Additional speed can be secured by shunting the motor fields. The master controller has two handles; one determines the direction of train operation, and the other is for selecting one of the three operating positions. Power delivered to the traction motors is dependent upon the position of the engine throttle. An important feature of the electrical equipment is its ability to utilize the full capacity of the Diesel engine at all train speeds.

Power for the operation of the electrical auxiliaries is obtained from 75-kw. 220-volt electric generators, directly connected to the auxiliary Diesel engines. These generators furnish power at constant voltage, irrespective of main engine load or speed, for battery charging, for the electric lights and other electrical appliances throughout the train, including the apparatus for air-conditioning. About 36 small motors, ranging in size from ¼ to 12 hp., are driven from one of these generating sets. An Exide-Ironclad, 32-cell storage battery, having a capacity of 450 amp. hr. at the 10-hr. discharge rate, furnishes the power for engine cranking, lighting and control of the electrical transmission.

Freight Car Loading

WASHINGTON, D. C.

REVENUE freight car loading in the week ended May 25 totaled 599,543 cars, an increase of 16,216 cars as compared with the week before but a reduction of 26,447 cars as compared with the corresponding week of last year. This was, however, an increase of 53,992 cars as compared with 1933. Loading of coal and ore showed increases as compared with last year and miscellaneous freight, coal, grain and grain products, ore, and coke showed increases as compared with the week before. The summary, as compiled by the Car Service Division of the Association of American Railroads, follows:

Revenue Freight Car Loading

For Week Ended Saturday, May 25

Districts	1935	1934	1933
Eastern	144,266	144,329	128,225
Allegheny	120,499	127,098	102,589
Pocahontas	40,627	43,031	35,349
Southern	83,372	87,285	81,746
Northwestern	85,010	90,123	69,782
Central Western	79,911	86,537	80,031
Southwestern	45,858	47,587	47,829
Total Western Districts	210,779	224,247	197,642
Total All Roads	599,543	625,990	545,551
Commodities			
Grain and Grain Products	25,810	28,253	34,482
Live Stock	11,361	16,313	15,174
Coal	112,849	110,057	82,380
Coke	6,169	6,974	4,162
Forest Products	24,023	26,011	22,820
Ore	31,125	29,826	10,528
Merchandise L.C.L.	158,050	164,169	166,748
Miscellaneous	230,156	244,387	209,257
May 25	599,543	625,990	545,551
May 18	583,327	612,331	535,719
May 11	575,185	602,798	534,806
May 4	569,065	605,246	527,118
April 27	558,886	609,704	538,809
Cumulative Total, 21 Weeks	12,140,904	12,351,993	10,418,053

Car Loading in Canada

Car loadings in Canada for the week ended May 25 totaled 41,065, as compared with 39,514 last year and 43,561 for the previous week, according to the compilation of the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
May 25, 1935	41,065	21,238
May 18, 1935	43,561	21,532
May 11, 1935	38,400	21,239
May 26, 1934	39,514	23,278
Cumulative Totals for Canada:		
May 25, 1935	891,577	475,635
May 26, 1934	871,704	494,326
May 27, 1933	705,283	364,358

The New Passenger Terminal of the P.-R.S.L. at Atlantic City, N. J.

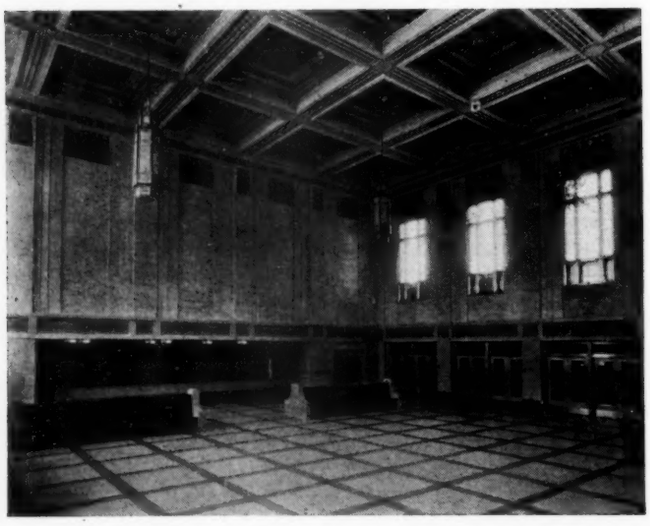
Modern Passenger Terminal Built at Atlantic City, N. J.*

New facilities of the Pennsylvania-Reading Seashore Lines, which include several unique features, fill long-felt need at popular seashore resort

AS the crowning feature of the unification of the Pennsylvania and Reading lines in the southern part of New Jersey (the lines of the West Jersey & Seashore and the Atlantic City Railroad, respectively), these roads have placed in service a new union passenger terminal at Atlantic City, N. J. This terminal replaces the old terminal stations of both roads. It is modern in every respect and capable of meeting the exacting requirements of an unusually heavy excursion traffic.

The new station, which will be operated by the new operating company, the Pennsylvania-Reading Seashore Lines, will be called upon to handle from three to six million passengers during the summer months. It includes essentially eight 15-car stub-end passenger tracks, served by 1,400-ft. shed-covered intermediate concrete platforms, and the station building itself, which is an attractive limestone and brick-faced structure, 161 ft. long by 110 ft. wide, facing Atlantic avenue, the principal business street of the city, over a large landscaped approach. In addition, the new facilities include a bus terminal, express and freight handling facilities, a spacious parking area for the use of railway patrons, and a comprehensive layout of coach storage tracks.

* The second of two articles dealing with the unification of the facilities of the Pennsylvania and the Reading in south New Jersey. The first article was published in the *Railway Age* for June 1, 1935.



The Attractive Main Waiting Room, Looking Toward the Ticket Office and the Train Concourse

Old Station Became Inadequate

Prior to the unification of the two roads in South Jersey, each road had its own passenger station, the Pennsylvania's station being located on South Carolina avenue, immediately adjacent to Atlantic avenue, while the Reading's station was located nine blocks west, facing directly on Atlantic avenue, between Arkansas and Missouri avenues. Constructed prior to 1860, both of these stations, with alterations from time to time, served the city well for many years, but even as far back as 1920 they became congested during the heights of summer travel, and this, coupled with their age, brought about agitation for more modern facilities. Furthermore, the approaches to both stations, and especially that of the Pennsylvania, crossed a number of important streets at grade, which became increasingly unsatisfactory to both the railroad and the city as motor vehicle traffic increased.

As time passed, the need for new station facilities increased, and, with agitation for the unification of the operation of the two roads and for the elimination of grade crossings within the city, there developed the idea of a new union station, centrally located and modern.

Several plans were proposed and considered, but a location on Arctic avenue, directly back of the old Reading station, was finally ordered by the Public Service Commission of New Jersey.

Station Tracks in Service Last June

With the unification of the South Jersey lines already in effect, and with the Arctic avenue location decided upon, work on the new terminal was started in November, 1933, simultaneously with the demolition of the old Reading station and the removal of its track facilities. The first phase of the construction schedule contemplated the early completion of the track and platform layout of the new terminal, with its approaches, and suitable temporary station facilities, so that these facilities could be available to assist in handling the peak summer travel of 1934. Adhering to this schedule, actual construction of the station building was deferred while the track and platform work was pressed. As a result, the new track facilities at the terminal, with adequate temporary station facilities, including a sheltered concourse, ticket office, lavatory and express and baggage handling facilities, were put in service on June 24, 1934.

While the old Reading station facilities were being removed and the new terminal track facilities were being constructed, the trains which had formerly used the old Reading station were operated into the old station of the Pennsylvania at South Carolina avenue, which, in view of the lighter traffic of the winter and spring months, was able to handle them satisfactorily. With the opening of the new terminal track facilities in June, all trains of the consolidated lines which operated to and from the Federal Street Ferry terminal in Camden, N. J., were handled at the new terminal, while all of the consolidated lines trains which operated directly into Philadelphia, via the Delaware River bridge, and trains from New York, continued to be handled at the old South Carolina Avenue station. This gave the necessary relief to the old station during the summer months.

On September 30, all traffic was diverted to the new terminal. This automatically stopped main-line train operation over 10 crossings on the line into the South Carolina Avenue station and permitted an early start on the removal of the old railway facilities in that part of the city. While the summer and fall movement of trains was being handled as described, work was being pushed on the construction of the new station building.

Station is Attractive and Practical

The new station, which extends for 161 ft. along Arctic avenue and 110 ft. along Arkansas avenue, is of the classical type with the Corinthian influence, modernized by the use of brick-faced walls and aluminum doors and window casements. The central section of the main facade, which rises to a height of 46 ft. above the sidewalk level, presents essentially a group of six fluted limestone pilasters, with carved limestone capitols and cornice, surmounted by a carved limestone balustrade. Between

Looking Through the Train Concourse and Out Into the Track and Platform Area

adjacent pilasters, five high and wide window panels of clear glass in aluminum frames rise almost to the cornice level above a steel-frame marquis, which is entirely encased in aluminum plates and shapes. The marquis affords protection to five pairs of outward-swinging glazed doors with aluminum frames, which form the main entrance to the station.

On each side of the central section of the main facade are lower wing-like sections, 40½ ft. long and about 34 ft. high, faced with brick. In harmony with the central section, these supporting sections are each provided with a granite base, limestone cornice and coping, and three high window panels, broken at the second floor level by aluminum spandrels. The Arkansas Avenue face of the station has been given the same architectural treatment as the front of the wing sections, and has five high window panels, with the sash at the first and second floor levels separated by ornamental aluminum spandrels. The face brick used throughout on the station is a wire cut brick in several shades of light buff and light gray.

Special Wall Waterproofing

The frame of the building is of structural steel, and the brick face walls are 12 in. thick, with special waterproofing to insure against the presence of moisture on the interior. This waterproofing consists of a ¾-in. parge coat of cement plaster on the back of the brick, followed by a coating of asphalt mastic into which the furring tile is set.

The main roof of the station, which extends over the waiting room area, is of the hip type, with structural steel roof trusses and a metal deck. The level portion of the main roof is covered with four-ply, built-up roofing, coated with slag, while the hips, which are exposed to view, are covered with ribbed copper. The roofs over

Long Platforms and Butterfly-Type Sheds Serve the Eight Tracks at the New Terminal

the wing sections, which are practically flat and obscured from view, are of ordinary steel beam construction with a metal deck waterproofed with built-up slag-coated roofing.

Station Permits Free Flow of Passengers

The entire main section of the station, 75 ft. long by 67 ft. 8 in. wide and rising to a height of about 40 ft. above the floor level, is designated as a waiting room, although experience had shown that relatively few passengers using the old Atlantic City stations had occasion to use distinctly waiting room facilities. This is because of the excursion character of the large majority of the train travel, especially during the summer months when travel is the heaviest and the frequency of train departures the greatest. Most of the excursion passengers leaving the city hold return tickets to their points of destination, and thus pass directly through the station to their trains, without stop or delay. Therefore, while called a waiting room and equipped with four back-to-back settees, the main station area will function essentially as a through concourse for passengers in reaching their trains.

This situation is reflected in the design of the new station. Thus, movement through the station to trains is continuous at the street level, and the entire waiting room area is unobstructed by columns or by auxiliary facilities or furnishings, with the single exception of the four settees, which are located toward the four corners of the room to afford a minimum of obstruction. Furthermore, the five pairs of double doors along the front of the station open directly into the waiting room, and practically the entire back face of the room, leading to the train concourse and track platforms, is made up of doors, there being a total of ten double doors on this side to permit the ready influx and exit of passengers.

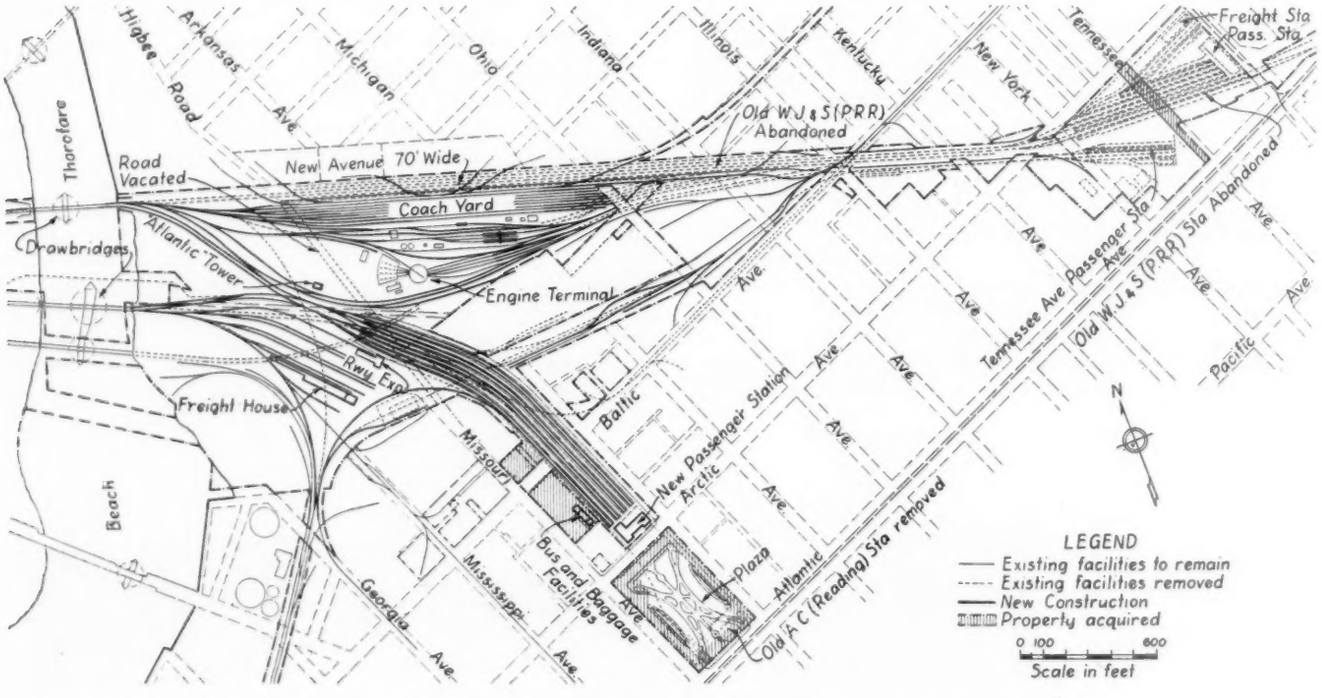
While no permanent vestibules have been provided, and they are not required from the standpoint of the prevailing summer weather conditions at Atlantic City, portable vestibules of pressed steel sections have been provided, which will be set in place during the winter months when colder weather prevails and when, owing to reduced travel, any interference which they might cause will be a minimum. Further reference to these vestibules, which are of interest in a number of respects, will be made later in this article.

All auxiliary passenger facilities at the station lie in the wing sections on each side of the waiting room, the left, or west wing, housing the ticket office, a large public telephone and telegraph room, and the men's lavatory. The east wing is divided essentially into three main units, including a women's retiring room, with lavatory directly to the rear; a Union News sales area, equipped with a 19-stool lunch counter; and an emergency room, 8 ft. wide by 19 ft. deep, located directly between the two larger areas. The ticket office, with an open-top counter and nine ticket windows, occupies the central section of the west wing; the telephone and telegraph room occupies the northwest corner of this wing, while the men's lavatory, with a vestibule approach immediately inside the front entrance of the station, extends behind the ticket office area. No restaurant facilities, other than the Union News lunch counter, are provided.

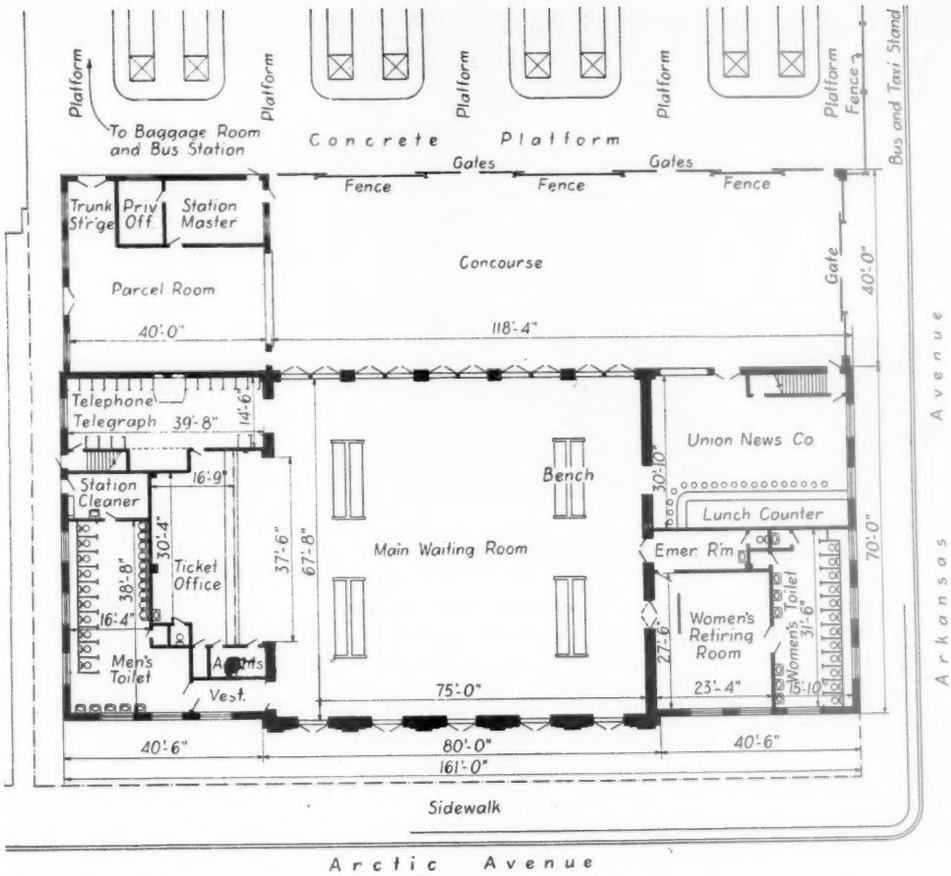
Train Concourse is Open

The train concourse, with an area 40 ft. wide and 117 ft. long, lies directly back of the waiting room, and extends back of the east wing to gate openings on Arkansas avenue, along which hotel buses and taxicabs are stationed. This tends to minimize passenger movement through the waiting room, since many passengers will use the Arkansas Avenue exit direct from the concourse. At the west end of the concourse, directly back of the west wing of the station proper, is the parcel checking room, conveniently located in the direct path of passengers to and from trains, and to the north, along the most westerly track platform, is the baggage room and a bus terminal.

The train concourse, which is one-story high, has a shed-type roof with a structural steel frame, covered with corrugated protected metal. The track side of the



General Layout Plan of the New Pennsylvania-Reading Seashore Lines Passenger Terminal Facilities at Atlantic City, Showing Old Stations and Tracks Abandoned



General Plan of the Street Level Floor of the New Atlantic City Passenger Station

concourse is open, except for an ornamental iron fence, with train gates at each of the five track platforms.

The bus terminal, which will be used by buses operated by the railroad company, is 110 ft. 5 in. long by 30 ft. wide, and is provided with a waiting room, a bus ticket office and toilets, and, architecturally, is in harmony with the main station construction.

The second floor of the east wing section of the main station is laid out essentially for offices, while the same floor of the west wing will be devoted principally to train crew quarters, including a bunk room and toilet and wash room. The railroad telephone exchange and cable room is also located on this floor.

Interior Decoration Pleasing and Practical

The decoration of the interior of the main public areas of the station is carried out in the modern with a classic motif, there being evident the two-fold purpose of producing an architecturally pleasing effect and, at the same time, the highest degree of permanence with a minimum amount of maintenance. Thus, in the main waiting room, above a 12½-ft. wainscot of chocolate and cream-color architectural terra cotta tile with an 18-in. ornamental frieze of the same material, the walls and pilasters are faced with precast travertine, with an ornamental polychrome plaster cornice. Directly above, about 40 ft. above the floor, is the polychrome coffered ceiling in plaster, which is suspended from the roof trusses.

Breaking up the wall spaces between pilasters at both the front and rear of the waiting room are large window panels in aluminum frames, the top sections of which are hinged and gear-operated to provide for ventilation. Directly above the windows, which are glazed with clear plate glass, are ornamental plaster panels, in harmony with the ornamental cornice and ceiling.

All trim within the principal station areas is of satin-finish aluminum, with the principal exceptions of the lighting fixtures and the frames of the main groups of doors, which have a polished finish. The floor of the waiting room is of terrazzo tile in four-foot squares and colors harmonizing with the soft brown tones of the wall facings.

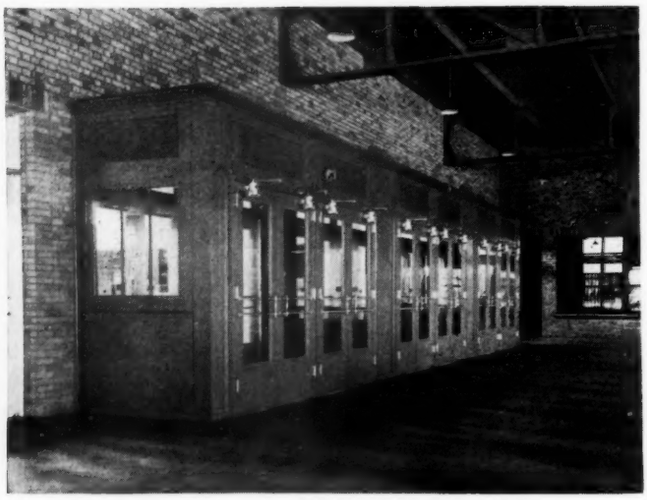
Artificial illumination is by means of four ornamental lighting fixtures suspended from the ceiling, which provide a combination of direct lighting through their bottoms and indirect lighting through reflection against the ceiling. The fixtures, all with polished aluminum frames and translucent glass faces, are hexagonal in shape, nine feet deep by three feet in diameter.

The interior decoration and finish of the smaller public areas of the station are generally similar to that in the waiting room. For example, in the Union News area, the telephone and telegraph room and the ladies' rest room, the walls are faced with architectural terra cotta tile with an ornamental plaster cornice, and the floors are of terrazzo tile. The public toilet rooms have cream-color tile wainscoting in 6-in. by 12-in. units to a height of 6 ft., above which are ivory-tinted plaster walls. All toilet partitions are of gray marble, and the floors are of terrazzo.

Heating of the station is by means of low pressure steam, supplied to convection-type radiators concealed in the wall areas. The steam supply is furnished to the station by the steam plant of the engine terminal, approximately one-half mile away.

Pedestal-Type Pile Foundation

The station, which does not have a basement, primarily because of high ground water, is supported on poured-in-place concrete pedestal-type piles, sunk in sand which extends to a great depth generally throughout the city. These piles, which are 18 in. in section, are arranged in groups of from two to seven piles each, the larger groups being located beneath the wall columns.



The Attractive Removable Vestibules in the Train Concourse at the Doors Leading to the Main Waiting Room

Each individual group of piles is provided with a monolithic concrete cap, and all of the different groups, both lengthwise and crosswise of the station, are tied together with reinforced concrete beams directly beneath the floor slab.

The most interesting feature in connection with the foundation is the method employed in its construction. Since ground water is found at a depth of seven feet beneath the surface, a condition which would have caused difficulty and expense in unwatering each of the pile holes individually, a method of unwatering the entire station building area to a level beneath the bottoms of the piles was employed. In this method, which has been used to a considerable extent in and about Atlantic City because of the sand and high ground water conditions prevailing, a wall of well points, with the individual points spaced four feet center to center, was driven approximately 15 ft. outside the building wall line. These were connected with six electrically-driven vacuum pump systems of 300 gal. per min. capacity each. Continual pumping not only lowered the water table within the station area, but maintained the lowered level readily so that all excavation for the piles, and the pouring of the concrete, was done in the dry.

The actual excavation for the piles was done with power earth augers within sheet metal caissons, forced down in sections as the depth of excavation increased. When the level of the foundation base was reached, the auger was withdrawn and the additional excavation necessary for the flared pedestal footings of the individual piles was made. Following this, spiral reinforcing was set in place and the concrete was poured.

The Express Building Constructed at the New Atlantic City Terminal

Details of Removable Vestibules

Earlier in this article reference was made to the removable entrance and exit vestibules which have been provided for the station. These vestibules are made up of pressed metal panels, steel sash and steel doors glazed with wire glass, and can readily be assembled or taken apart and stored. Three single-width vestibules have been provided for three of the double-door units of the main entrance on Arctic avenue, while three larger vestibules, each enclosing two double-door openings, have been provided for the concourse side of the station.

The main entrance vestibules are designed to be located on the inner side of the doors, within the waiting room, thus minimizing obstruction on the walk area along Arctic avenue, while the waiting room—concourse door vestibules are designed to be located within the concourse area. Each of the single vestibules has an inside area 7 ft. 4 in. wide by 5 ft. deep, while each of the double-width vestibules is 14 ft. 3 in. wide by 5 ft. deep. In all cases the vestibules have double-swinging doors directly in line with the station doors, and their sides are fitted with sash to improve lighting conditions.

A feature of the vestibules is the fact that they are not only readily assembled and removed, but are equipped with removable fin-type steam radiator units. These units, which are connected with the permanent steam heating lines of the building beneath the floor, are located on each side of the single-width vestibules, but centrally in the double-width vestibules, directly back of the building pilasters. Wherever receptacles have been provided in the floor for steam connections, or for bolting connections for securing the vestibules in place, they have been equipped with covers flush with the floor level, which will be put in place when the vestibules are removed.

Effective Track Layout Provided

The track layout at the terminal was designed with special regard for the peak travel during the summer months, when it will be necessary to move as many as 136 trains into and out of the station during certain days, and as many as 14 trains into and out of the station during certain hours. The immediate track-platform facilities include eight 15-car stub-end tracks, arranged in pairs, with low-level concrete platforms between each pair and along the outer sides of the outside tracks. The platforms, which are 18 ft. wide and approximately 1400 ft. long, are, for the first 600 ft. of their length, provided with steel-frame butterfly-type sheds with corrugated protected-metal roofs.

Through the shed area the tracks are straight, but immediately beyond the ends of the sheds, or approximately nine car lengths from the station, they swing to the west on a six-degree curve to the throat of the terminal layout at "Atlantic" interlocking. This interlocking, which is equipped with a 111-lever electro-pneumatic machine, controls all train movements within the station area, and northward on the main line, a distance of 1.7 miles from the station.

One of the most effective features of the track layout is the twin double-track main-line approach to the station, and the arrangement of crossovers and special trackwork provided within the terminal area, whereby each of the four main tracks has direct connection with all of the eight platform tracks. The twin double-track station approach was brought about by utilizing the former double-track approach to the old Atlantic City Rail-

(*Continued on page 890*)

Radical Revision of Freight Handling Recommended

Report to Co-ordinator suggests greater cargo service and use of light trains

WASHINGTON, D. C.

A COMPREHENSIVE and radical revision of present methods of handling carload freight traffic is suggested by Co-ordinator Eastman's Section of Transportation Service, J. R. Turney, director, in a voluminous Freight Traffic Report just completed and transmitted by the co-ordinator to the railroad Regional Co-ordinating Committees for their consideration.

Among many other conclusions the section finds that rail transport can be improved and its cost reduced by motorizing many collection and delivery services, establishing cargo (trainload) service, and, in the case of many distributive operations, by substituting small-powered, light trains of a few cars for conventional trains. It is stated that the potential ability of the railway to move freight on the road at speeds much in excess of those possible by other land agencies will prove of little practical value until terminal delays are eliminated or drastically reduced, but that "this can be accomplished by the operation of short trains upon more frequent schedules (provided economical units therefor are developed); by motorizing terminals in many cases; by unifying terminals; by reducing multifarious routings; and by co-operative routing and scheduling of intercarrier trains." A revision of the rate structure giving greater recognition to cost of service, is also recommended.

The conclusions stated are those of the Section reached after consideration of the data, Mr. Turney said in a memorandum to the co-ordinator, adding that "the volume and scope of the surveys make it impossible for any one to speak with finality" and that for this reason "the report is intended to provoke consideration of the basic data and their implications, and to point the need for a planned program over a period of years, and to suggest rather than to define that program." Mr. Eastman, in his letter to the committees, said in part:

Eastman Letter to Co-ordinating Committees

"The report is the result of a study which undertook to get the basic, fundamental facts in regard to this traffic, including the unit costs of every phase of operations, the character of service furnished and equipment used, the rates charged, and the extent to which present methods and practices are or are not well suited to modern commercial needs and competitive transportation conditions. These facts have been obtained, not only for the railroads, but for the other forms of transportation, so that comparisons can be made. Such information has never hitherto been assembled with anything like the same degree of completeness, and most of it has not been available at all.

"Some of these conclusions and suggestions will be regarded as radical or revolutionary, and I anticipate that they will be received with skepticism. That is a normal attitude, and an entirely appropriate one, so long as the skepticism is open-minded. The matters dealt with in the report are of such vast scope and importance that definite recommendations with respect to changes in present methods and practices, from me or from my Section of Transportation Service, would not be justified at this stage nor until the data have been reviewed by others. We offer, therefore, not recommendations but suggestions.

"For my own part, I express for the present only the conviction that modern commercial needs and competitive transportation conditions imperatively demand a thorough reexamination of the operating methods of the railroads, of their service and equipment, and of their rate structure. If the report herewith submitted demonstrates nothing else, it demonstrates this. I believe that the need for many comprehensive changes will be found. The report and the data which accompany it will, I am confident, be of great value in such a reexamination."

The plan suggested seeks to preserve competition where it stimulates service and efficiency but not where it causes serious waste. It proposes that certain work of common concern such as pricing, scheduling, routing, and marketing be handled co-operatively by a few joint agencies and that the carriers also jointly operate or use equipment, terminals, and facilities where this will improve service and save expense.

Cargo Operation and Rate-Making Proposed

Development of a system of railway cargo operation and rate-making is proposed making possible the profitable handling of trainloads of basic commodities without intermediate yardings at greatly reduced rates and the contemporaneous development of a system of light-powered shorter train units for concentration and distribution of carlot traffic and for special high-speed services. The report is summarized as follows:

The Traffic

I—Underlying Surveys: The report is the result of concurrent surveys of freight transport operations of all types of carriers. It assembles traffic, service, charge, and operative data, essential to design a co-ordinated system of transport, utilizing all types of facilities and agencies.

II—Profitability of Freight Service: Freight transport tends to become unprofitable because of a surplus of facilities, competitive ratemaking and service, and utilization of obsolete equipment, plant and methods as well as less economical modes of transportation.

III—Freight Volume: It appears unlikely that increased production within the immediate future will provide a volume of carrier freight traffic as large as that which existed prior to 1930. This is true because of the relocation and decentralization in industry, change in power and fuels, and increase of private transportation.

IV—Freight Traffic Markets: The bulk of American traffic is produced in small towns but principally consumed in large cities. Basic materials are produced in the South and West and processed and largely consumed in the East.

V—Freight Commerce: American commerce has definitely assumed a national aspect. This development requires subordina-

tion of provincial to national considerations in dealing with carrier relations, facilities, operations and charges.

The Service

VI—Elements of Transportation Service: Modern business demands celerity in movement, universal door-to-door service and equipment adapted to business needs.

VII—Transportation Speed: The potential superiority of the railway, resulting from its road speed, is dissipated by voluntary restrictions, infrequent schedules, and frequent yardings and interchanges. As a result, a large volume of carload traffic now moves by highway.

VIII—Completeness of Transportation Service: Equipment is now available whereby rail and water carriers can render complete service to all patrons economically.

IX—Schedule Correlation: The motor vehicle is superior in its ability to synchronize its schedules with the patron's needs. Rail and water carriers are handicapped by a limited number of schedules, and by operation of parallel schedules for competitive reasons. Rail carriers have it within their power to reduce, if not to overcome, this handicap.

X—Adaptness: Carriers can reduce substantially the shipper's cost of transportation by providing vehicles which are shock-proofed to reduce packing, fitted with economical temperature control apparatus, and constructed to facilitate cheap loading and unloading.

The Charges

XI—Elements of Freight Charges: The present system of freight transport charges should be reorganized to meet conditions, which have resulted from the ability of the shipper to provide his own transportation.

XII—Freight Traffic Sales Unit: The present carlot sales unit and minimum weight requirement are no longer adapted to commercial needs, are conducive to uneconomical loading, and tend to divert cargo shipments from the railways. The price scale should vary with the size of shipment, from a ton to a train load, permitting shipments in any amount, but creating an incentive for full instead of minimum loading.

XIII—Freight Commodity Classification: Modern conditions require that all commodities be classified objectively into a limited number of groups, according to nature, utility and state of processing, and that such groups be rated solely with respect to their potentialities to produce the maximum volume of profitable traffic, excluding consideration of cost characteristics.

XIV—Price Level: The present level of railway rates generally is higher than that of other carriers, and in many cases exceeds the cost to the shipper of providing his own transportation. To assure efficient and stable service, the price level should be designed to make transportation profitable.

XV—Price Structure: The data indicate that different carrier rate structures, in different territories, are no longer justified by present conditions. To avoid discrimination among shippers and uneconomic distribution of traffic between carriers, the present rate structure should be readjusted to evaluate the distinctive cost characteristics of shipments.

XVI—Tariffs: Tariff complexity can be reduced and the utility increased by unification of rate systems and publishing authorities, by simplifying commodity classification, and by grouping carrier routes into a limited number of definite channels.

The Operations

XVII—Statistical Analyses: The statistical data of all transport agencies should be uniformly amplified to permit analysis of operations for budgeting, managerial control and supervision, operating and plant improvement, pricing, servicing, marketing and planning.

XVIII—Carrier Inquiries: The underlying statistical analyses of the report are based upon data furnished by rail, water, pipe line and highway carriers. Generally these data embrace the actual traffic and operating statistics of the entire base year.

XIX—Nature of Operations: Capacity of present transport facilities appears to exceed the prospective demand. Additional facilities are justified only when their economic superiority makes present facilities obsolete, and when demanded by general as distinguished from individual or local welfare.

XX—Circuity of Movement: Additional cost of transport, resulting from the circuity of the average rail shipment, can be reduced by co-operative group routing.

XXI—Overall Costs: To provide an equivalent amount of transport service, the pipe line carriers require the least in capital investment, and the rail carriers the most, if governmental expenditures for waterways and highways be excluded. The cost of operative transport is cheapest in the case of water cargo carriers, and most expensive in the case of rail and water carlot carriers.

XXII—Carrier Fixed Plant: Due to the burden of an exclusive transport way, rail and pipe line unit costs for maintenance of fixed plant are relatively the same, and if government expenditures for maintenance of waterways and highways be excluded, much higher than the comparable costs of carriers using such ways.

XXIII—Transport Power: The data indicate that in thin traffic areas, consideration should be given to the utilization of small-power freight cars and light locomotives which manufacturers now offer.

XXIV—Transport Vehicles: A railway car of shock-proof chassis, with multiple sets of containers, which are interchangeable between railway, waterway and highway vehicles, versatile in design, adapted to present day sales units, and accessible for economical loading and unloading, would improve transportation service, reduce its cost and discourage uneconomic distribution of traffic.

XXV—Conducting Transportation: The cost of operating carrier facilities is relatively greater for carlot than for cargo carriers. Substantial economies in rail transportation costs appear possible in operation of freight station facilities and in assemblage operations.

XXVI—Transport Overhead: Rail overhead expenditures for executive direction, sales promotion and insurance are relatively lower than comparable expenses of the other types of carriers, while rail tax expenses are relatively higher.

XXVII—Yard and Terminal Operations: Economy in rail yard service has been sacrificed to attain economy in road movement by heavy train loading, with the result that yard costs are greater than road costs. The terminal cost of rail and water carlot carriers far exceeds that of other carriers and is about twice the cost of highway service.

XXVIII—Line Operations: Due largely to intermediate yardings and to the distribution of freight from terminal centers by way trains, rail line costs are relatively higher than costs of comparable services of all other transport media, except highways.

XXIX—Integrated Movement: It appears that rail transport can be improved and its cost reduced by motorizing many collection and delivery services, establishing cargo (train load) service, and, in the case of many distributive operations, by substituting small-powered, light trains of a few cars for conventional trains of cargo type but of carlot consist.

XXX—Intercarrier Operations: The present policy of wide open routing leads to preferential treatment of shippers, undue prolixity and complexity in tariffs, circuitous routing, unnecessary interchanges and excessive terminal delays, and thereby burdens industry, as well as the carriers, with avoidable waste.

Co-ordination

XXXI—Objectives: Co-ordination seeks, by a speedy, complete, convenient carrier service at simple, cheap but profitable rates, to develop the nation's transport adequately to fulfill every need of industry, promote trade and commerce among its citizens, develop markets of production and distribution, and stabilize the industry to the end that labor and capital employed therein shall be well compensated and made secure. To attain these objectives, it proposes to promote beneficial competition and to eliminate evil competition, to fuse common facilities of whatever kind into a single transport system, and to integrate joint functions into common agencies.

XXXII—Competition: Competition, insofar as it stimulates service, efficiency and economy, should be promoted, but the evils of unrestrained agency, price, market and plant competition need to be avoided.

XXXIII—Management: Integration of commerce, territory and industry makes necessary a parallel integration in joint carrier agencies of the common functions of pricing, through scheduling, redundant service, routing, marketing and research.

XXXIV—Agencies: Each form of transport is superior to each other form in some important respects, and inferior in others. All should be integrated by joint rates, interchangeable equipment and common facilities, under a program designed to use each form in the field of its greatest utility.

XXXV—Operations: Wherever necessary for serviceable, efficient or economical operations, all carrier equipment, terminals and facilities should be used jointly and interchangeably by carriers of all types, under appropriate and fair user arrangements.

XXXVI—Effect: The suggested plan of co-ordination will promote public welfare and at the same time protect and conserve the interests of owners and employees of the transportation industry.

Long-and-Short-Haul Clause Repeal Asked

Railroads, shippers, and labor organizations unite in support of Pettengill bill

WASHINGTON, D. C.

COMPLETE elimination of the long-and-short-haul clause of Section 4 of the interstate commerce act, as proposed in the Pettengill bill, H.R. 3263, was asked by representatives of the railroads at a hearing begun on June 5, after many delays, before a sub-committee of the House committee on interstate and foreign commerce headed by Representative Pettengill, of Indiana. The bill was introduced at the request of the National Industrial Traffic League and shippers representing the league were present to appear in support of it, as well as many representatives of the railroad labor organizations who have been working with members of Congress urging consideration of the bill, but the first testimony on Wednesday was given by the railroads. It was announced that testimony in support of the bill would be concluded by the end of next week, after which the opponents will be heard.

R. V. Fletcher, vice-president and general counsel of the Association of American Railroads, made an opening statement on behalf of the carriers, declaring that repeal of the long-and-short-haul clause is necessary to the completion of the program of legislation placing railroads and competitive forms of transportation on an approximate equality as to federal regulation. A more detailed statement as to the need for such legislation was made by Joseph G. Kerr, assistant to the vice-president in charge of the Traffic Department of the railroad association and E. Morris, chairman of the Central Freight Association. After outlining the progressive decline in railroad revenues in recent years Judge Fletcher continued:

"In part, and perhaps as the principal explanation, we must look to the general depression in industry. But since railroad revenues have declined to a markedly greater extent than in the case of industry as a whole, we must look beyond the depression for secondary causes. Obviously, the diversion of tonnage in large amount from the rails to other and competing forms of transportation accounts for the fact that railroads are in worse situation relatively than other lines of business. Unfortunate as this may prove to be for railroad workers and holders of railroad securities, no one is contending that the rails are entitled to a monopoly of transportation. No one of sound judgment seeks to deny to the American people their rights to employ that form of transportation which is most economical and best suited to their needs.

"But railroad workers and railroad security owners are entitled to demand at the hands of legislative bodies that legislation, or the lack of it, shall not produce inequality in the matter of subsidies and restrictive regulation. To this end Congress is giving serious consideration to the regulation of highway and water carriers, at least to a certain extent. The legislation proposed by the co-ordinator and endorsed by the Interstate Commerce Commission provides for the regulation of rates and services after the manner in which railroads are regulated. If these measures are enacted into law all rates on the highways and on water routes must be reasonable and non-discriminatory. But neither of these proposed enactments contains a long-and-short-haul clause, as does the Act regulating railroads. If, therefore, there is to be anything like equality of regulation, the long-and-short-haul clause in the railroad act should be repealed.

"I think our evidence will demonstrate how this section, as construed and applied by the commission, has resulted in limiting the activities of the railroads to the manifest advantage of their competitors hitherto unhampered by regulating restrictions. It is significant that the important carriers of water-borne commerce, particularly in intercoastal service, are among the principal opponents of the reform we are here advocating. There can be but one explanation of this attitude: the desire to retain the advantage which is the result of the restrictions imposed upon the rails by a policy which ignores practical considerations and defeats the normal operation of the law of competition.

"We are asking the Congress to regulate the competitors of the railroads. To complete the program, since the long-and-short-haul principle will not apply to water and highway transport, it is only fair that it should not apply to transport by rail.

"It may be safely assumed that the principal task of the Congress is to promote business recovery; to design legislation of such a nature that the forces that make for healthy industrial conditions may operate without undue restrictions; that those who are interested in business may go forward with confidence in their task of restoring credit and strengthening the purchasing power of the average citizen. I know of nothing which will advance these desirable ends so effectively as the restoration of the railroads to their former position as purchasers of materials, both durable and consumable, as employers of labor, as the source of tax funds, and as a medium for sound investment.

"As bearing upon the value of spending money as an aid to recovery, it should be borne in mind that here is one industry that has been forced to curtail its expenditures by more than two billion dollars annually. This figure does not include taxes.

"I have mentioned facts indicating the importance of the railroads in any well-conceived and complete scheme for industrial recovery. They are entitled, I respectfully submit, to the careful and sympathetic consideration of the Congress. At the very least, they should have such legislative relief as will give them a fair and equal chance to demonstrate their continued usefulness as servants of the social order."

Joseph G. Kerr, assistant to the vice-president in charge of the Traffic Department of the railroad association, testified in part as follows:

So far as the long-and-short-haul clause of the fourth section is concerned, it forbids the making of a greater rate or charge

for a shorter distance than for a longer haul, the shorter being embraced within the longer:

(a) But the commission may in *special cases* authorize the carriers to depart therefrom, and to prescribe the extent of such relief;

(b) Except that the commission *shall not* permit the establishment of any charge to or from the more distant point that is not "reasonably compensatory;"

(c) Except that when relief is granted because of one route being more circuitous than another, the authority or relief shall not include intermediate points on the circuitous route where the hauls are not longer than that of the direct line or route between the competitive points. This is commonly known as the equi-distant rule and

(d) Except that *no* relief shall be granted on account of merely potential water competition not actually in existence.

I have thus stripped Section 4 of its verbiage in order to get the essential provisions into as plain language as is possible.

While the words and the provisions may sound very simple and one unused to their application might think the railroads would obtain thereunder substantial equality of opportunity to compete on reasonable terms with their competitors, the fact is that the clause has been drastically and niggardly administered; in many instances it has been found impossible to obtain relief from its provisions; in others, the relief granted is not sufficient to protect the situation and is, therefore, practically worthless; in still others the conditions under which it is granted are very difficult or impossible to comply with; and there is required a great deal of labor, expense, and delay, and often months and even years elapse before a decision is rendered.

In advocating the enactment of the Pettengill bill proposing the repeal of the long-and-short-haul clause of the fourth section of the interstate commerce act, we do so because of the sincere belief that the railroads are entitled to share in the traffic moving to, from, or between points located on navigable waters and other competitive points and to bring about a condition whereby there is some reasonable opportunity for manufacturers or producers at inland points served by the railroads to market their products and move them by railroad to water-competitive markets in competition with manufacturers or producers who have the benefit of all-water transportation, and that the railroads shall be in position to determine for themselves whether the competitive rates they seek to establish yield some measure of profit so long as the intermediate points are not charged unreasonably high rates and are not discriminated against.

While under the present wording of the fourth section the commission is given authority in special cases to permit the railroads to charge less for a longer haul than for a shorter haul over the same route, and it is further directed by Section 15A (2) as amended in 1933 to given due consideration, among other factors, in fixing rates "to the effect of rates on the movement of traffic", actually Section 4 is so drastically administered as to almost eliminate, in a practical sense, the railroads from any opportunity to share in the movement of traffic between points served by water carriers. This is accomplished either by outright denial of the railroad applications for relief or by other restrictions of such a burdensome character as to practically result in no relief whatever.

What we ask is that the long-and-short-haul clause should be eliminated entirely, thus leaving to the carrier the primary duty of determining and making effective whatever rates are necessary to meet and to fairly reflect the circumstances and conditions surrounding the movement of the particular traffic, and without the necessity of waiting until our competitors have virtually stripped the traffic from the rails and also from the producers in the land-locked interior, largely dependent upon railroad transportation, before we can make an application to the commission, and then to spend much time, expense and labor preparing fourth section applications, participating in elaborate formal hearings in relation thereto, and wait months and in important instances years before we can get a decision as to what or what we cannot do.

The elimination of the long-and-short-haul clause will not in any way deprive the general public of any remedy now available to it for the correction of unjust or unreasonable rates or practices, or of abuses or other discriminations, for we still have Sections 1, 3, 15, and other sections of the interstate commerce act which authorize the commission to prescribe maximum and minimum and non-discriminatory rates where the carriers fail to do so, and even to suspend rates for 7 months pending investigation.

Fourth Section History

From 1887 to 1910, Section 4 permitted the railroads to meet competition as they found it and without the penalty of observing such rates as maxima at intermediate points where the competitive conditions were substantially dissimilar, and without the necessity of having the commission first review the situations and determine to what extent, if any, the carriers' action meets with its views.

In 1910 as a result of the Mann-Elkins act there was taken from the carriers and vested with the commission the authority to determine whether or not circumstances and conditions at the intermediate points were substantially dissimilar to those at the competitive points, and to establish and make effective competitive rates limited in application to such points. While for some years following the 1910 amendment the commission permitted long-and-short-haul relief, as subsequent development in administration have proven, if the act had been specifically amended so to prohibit the rail carriers from transporting any great amount of traffic between points served by water carriers and to further provide that interior producers were to turn over to their competitors the business done at or adjacent to the points on navigable waters, and to allocate water-competitive traffic almost wholly to water carriers, it could hardly have been more effective. The only reason that this situation has been slow in developing is that, as already stated, for some years following 1910 the commission rather freely permitted relief, many of the old water-competitive rates remained in effect until comparatively recent years, and much of the business formerly enjoyed by interior cities has slowly slipped away from them to their competitors on or adjacent to the navigable waters that it was not at first seriously missed by them; especially was the latter true during the boom days.

To be more specific, for many years prior to our entry into the World War, the transcontinental railroads were permitted to maintain rates that enabled them to share with the water carriers in the movement of traffic to and from the Pacific Coast. By 1916 the intercoastal water carriers had virtually disappeared from the service, not because of competition with the rail lines, but because they found the foreign traffic far more lucrative and simply abandoned the intercoastal traffic. Under these conditions the commission by decisions in 1916 and 1917 found that rates to and from the water competitive points lower than to and from intermediate points were no longer justified and denied relief. This forced upward many of the old competitive rates.

When the water carriers returned to the trade after the World War they proceeded to capture from the rail lines virtually all of the competitive traffic and the commission has rather consistently declined to permit the rail lines to operate competitive rates that would enable them to secure a fair share of the available traffic, this notwithstanding very definite showings that the rates sought were reasonably compensatory, and so admitted by the commission.

While I have referred specifically to the trans-continental situation, virtually the same thing happened in connection with rates to and from the South Atlantic, Florida, and Gulf ports. For some years subsequent to 1910 the rail lines were given fourth section relief and allowed to maintain rates necessary to enable the rails to get some of the traffic to the water-competitive territory without sacrificing the intermediate territory revenues, but beginning during the World War period such relief was gradually denied, although it is true that in recent years some measure of relief in specific cases has been allowed but same has not been of great consequence because generally the rail rates have been compelled to be carried on differentials so much over the water rates as to bring about no fair or equal opportunity for the rail carriers to compete. The same general situation exists in respect of rates necessary to meet river, lake, and canal competition.

The so-called equi-distant rule added by the 1920 amendment is a nuisance to everybody, including the commission which has recommended its repeal. It has accomplished nothing in the public interest but has had the effect of driving everyone to mileage scales in disregard of the true circumstances and conditions, economic and otherwise, surrounding the production and movement of the traffic. In addition, it is in part responsible for the filling up of the rate schedules with useless and unused rates and routing provisions, so much so as to make such tariffs exceedingly complicated and costly. It is further unfair because at equi-distant points it frequently required at those points lower rates than the conditions thereat warrant in that the special conditions may be present at the competitive point which prevent a normal rate which conditions are not found at the equi-distant point.

Rates to Intermediate Points Would Still Be Reasonable

It is difficult for us to conceive of the justness of any law or the administration of it, which says, in practical effect, that the railroads shall not be permitted to make rates which will enable them to get more than a few crumbs from the table, even though such rates yield them some profit, unless they are willing to accept substantially the same measure of profit on all the traffic

that they handle. The latter is manifestly impossible because it would be ruinous from a revenue standpoint.

It does not follow that rates to or from the intermediate points would be maintained on higher than a reasonable level because of the lower water or other competitive rates to or from points beyond, nor would such intermediate points be called upon to carry any greater burden because of railroad participation in the water-competitive traffic, however small such profit may be, because the interior non-water competitive point would otherwise have to carry the whole burden and, therefore, to the extent that the profit on the water-competitive points contributes something towards interest on investment, taxes and other items not affected by volume of traffic, the interior non-competitive point obviously benefits to that extent, and far more than that when employment, railroad material purchases, and taxes are taken into consideration.

I take serious exception to the statement that the rail carriers in seeking a repeal of the fourth section will make rates on such a low basis as to drive the water carriers out of the business and will then recoup by charging higher rates than they otherwise would at interior non-competitive points. Nothing could be further from the truth. No amendment of Section 1 which requires that rates shall be reasonable or of Section 3 prohibiting unjust discrimination or undue preference is suggested. The railroads could not establish or maintain rates from, to, or between the water competitive points lower than necessary to meet the water competition, taking into consideration whatever superiority there might be in the rail service and which of necessity would have to be reflected in the rail rates; in other words, rail rates no lower than necessary to give the rail lines an opportunity to share in the water-competitive traffic. If rail rates were maintained on any lower basis, then there would be discrimination against the intermediate non-water competitive point and a violation of Section 3 of the Act. If the water rates were advanced, necessarily the rail rates to the competitive point would have to be similarly increased in order to avoid discriminations against intermediate points. The commission, of course, would have the power to compel the removal of any unjust discrimination or undue preference and would continue to have power to suspend changes pending investigation, disallowing same where not found to be justified, neither could a rate at an intermediate point be unreasonably high because if such rate were established the commission has under Section 1 the power to condemn it and prescribe what it considers a lawful and proper charge.

The railroads generally, but not invariably, have a superior service to water carriage and in such instances are able to get somewhat higher rates for their service. In other instances the rail lines would be unwise to even attempt to meet the water competition, but there are many others where the railroad is justified in establishing a rate from an interior manufacturing point to a point on or adjacent to navigable water which will enable a manufacturer at such interior point to more nearly meet the competition of a manufacturer enjoying the all-water service and its low charges, and at the same time yield to the railroad compensation in excess of the out-of-pocket costs of the transportation. The same low measure of compensation could not be accepted on all of the less competitive traffic, but manifestly this does not put any burden whatever on the intermediate point such as it is often claimed by those opposing a modification of the long-and-short-haul clause, but on the contrary lessens such burden.

If the railroads entirely retired from the water-competitive traffic, it is clear that the interior non-water competitive points and traffic would have to carry the entire rail transportation cost in the way of operating expenses, taxes and fixed charges. The rates on such traffic have to be just and reasonable whether or not the rail lines carry any of the competitive traffic. Most of such rates have been fixed or approved by the commission itself. If the railroads carry none of the competitive traffic, the interior cities are left just where they are as to rates. Their inability to market manufactured goods at points on navigable waters is a most serious handicap in itself. They are no worse off with the railroads handling some of the competitive traffic to or from points beyond at rates which, while low, yield some measure of profit than if such competitive traffic moved around them entirely by water. In other words, their rate situation is not made better because the traffic moves via other forms of transportation around their cities or communities instead of through them. Their competition from a jobbing or distributing standpoint is not made any more difficult thereby.

It axiomatically follows that the interior point benefits as a result of the competitive rate to the point beyond to the extent that such competitive rate contributes to overhead charges, and further that if the competitive traffic were abandoned and not handled at all, under those circumstances it would operate to the disadvantage of the intermediate points.

Worst Floods in Years Interrupt Railway Service

FLOODS of extended proportions, which occurred in Colorado, Wyoming, Nebraska, Iowa, Missouri, Kansas, Oklahoma and Texas during the last week of May, caused untold damage over a widespread area, and culminated in a series of cloudbursts late last week that produced an unprecedented flood in the Republican river and its tributaries, and a heavy discharge from the streams flowing into the South Platte river. The result was a major catastrophe to the lines of the Chicago, Burlington & Quincy in southern Nebraska and eastern Colorado, and only slightly less damage to lines of the Chicago, Rock Island & Pacific. Interruptions to service have occurred also on the Atchison, Topeka & Santa Fe and the Union Pacific.

Heavy rainfalls varying from three to seven inches and sweeping these states for several days were responsible for the floods. The Republican river rose 3½ ft. between 7:30 p. m. and 9:10 p. m. on June 2 at Morganville, Kan., thereby reaching an all-time record height and a width of 1½ miles. The first floods occurred on May 26, causing small washouts which were quickly repaired. These floods were followed by others on May 29 and 30 and June 1, which not only caused more severe damage but destroyed the repairs already made. One of the most unusual conditions accompanying the floods was dust storms which restricted vision at times to 30 ft.

The first serious damage to the Burlington occurred on May 30 at Wiggins, Colo., on its Omaha-Denver line, where a flood in Bijou creek washed out a deck-plate girder bridge 363 ft. long, together with 300 to 400 ft. of approach embankments at each end, while some 3,000 ft. of track was washed out at Hillrose on the branch line from Sterling, Colo., to Brush. However, it was the extraordinary flood in the Republican river that did the greatest damage, namely, the destruction of mile after mile of track and dozens of bridges on the main line from Benkelman to Oxford, a distance of 105 miles, wiping out many of the towns, and resulting in the drowning of more than one hundred people and marooning eastbound Burlington train No. 6 at Haigler and westbound train No. 3 at McCook. Owing to the destruction of highway bridges, it was not until June 4 that it was possible to make arrangements for the passengers of these trains to continue their journeys by means of buses or private automobiles.

In addition to the destruction of the railroad's property on the main line, bridges and embankments were carried away at Curtis and Farnam on the branch line from Holdredge, Neb., to Sterling, Colo., service on this line being further obstructed by a washout of the approach embankment of the bridge across the South Platte river at the western terminus of this line at Sterling. Following the interruption of train movements west of Oxford Junction, the Burlington's Omaha-Denver passenger trains were detoured over its own lines via Alliance, Sterling and Cheyenne, and over the Colorado & Southern from Cheyenne to Denver. However, washouts of a minor nature on the Colorado & Southern required the use of the Union Pacific's track from Union, Colo., to Denver, and even this routing was not available for about 12 hours on June 2, owing to a washout on the Union Pacific in this territory.

Other interruptions to traffic occurred on the Colorado & Southern between Orin, Wyo., and Wendover, and for some distance south of Wendover, and on the

Burlington between Guernsey and Wendover, and on June 2, local storms in the vicinity of Omaha resulted in minor washouts at LaPlatte, Neb., and Louisville. In addition, severe damage occurred on the two Kansas branches of the Burlington, namely, the line from Orleans, Neb., to St. Francis, Kan., and from Republican, Neb. to Oberlin, Kan., and as the flood in the Republican river proceeded eastward, the Burlington's Denver-St. Louis line suffered severe washouts at many points in the 89 miles between Oxford and Superior, the roundhouse at Red Cloud being flooded with five feet of water.

While the Omaha-Denver's main line of the Burlington suffered practically no damage for the 91 miles between Benkelman, Neb., and Akron, Colo., making it possible for the railroad to supply shuttle service in this territory, this portion of the line was completely isolated between the severely damaged part of the line east of Benkelman and the washout at Wiggins on the main line into Denver and by the washouts on the Sterling branch north of Brush. Efforts toward restoration on the line along the Republican river were necessarily confined during the early part of the present week to such work as could be done by moving men and equipment in from Oxford except as equipment could be moved in over highways. In the meantime, at the washout at Bijou, work had to be prosecuted from the west, or Denver, end until the line of the Sterling branch could be restored so that equipment and material could be moved to the Bijou washout from the east. Because of the resulting delay in active work on the line along the Republican river from the west, together with the extreme severity of the damage done it is anticipated that it will require three weeks to restore service between Oxford and Benkelman.

On the Chicago, Rock Island & Pacific, the first difficulty was experienced at 4:30 a.m. on May 30, when parts of its line and bridges between Stratton, Colo., and Colorado Springs were washed out. So severe is the damage that it is estimated that this line cannot be restored to service before June 10. At Limon and Stratton, dust storms on June 2 added to the confusion. At Colorado Springs, Monument creek washed out a section of the main track and destroyed a steel bridge and part of the yard. From this point to Limon, embankments were washed out to a depth of as much as 30 ft., while between Colorado Springs and Seiwert it will be necessary to drive 94 bents of pile trestle.

The flood in the Republican river reached Scandia, Kan., on the Rock Island, on June 2, flooding the station to a depth of 5 ft. and washing out a half mile of track, while east of the Republican River bridge, 600 ft. of track was washed out. This line will not be opened until June 18. Here, also, the interlocking plant at the crossing of the Missouri Pacific was completely washed away and 80 per cent destroyed.

Less severe damage was experienced by the Rock Island at Clay Center, Kan., Morganville and Clifton where high water washed out some track and telegraph lines. High water in the Canadian river threatened to destroy a part of the Rock Island line in Oklahoma, it being necessary to throw car bodies and trucks into the stream to divert the current. Branch lines in Oklahoma were washed out and difficulty was experienced at Burlington, Iowa, Eldon, Keokuk, Evans, Leavenworth, Kan., Edgerton, Mo., Trenton, Kansas City, Topeka and Herington. At Morganville, one train was delayed 27 hr.

On the Atchison, Topeka & Santa Fe several bridges and some track were washed out in Missouri and Kansas by floods rising on May 29 and recurring on May 31. The principal damage occurred at St. Joseph, Mo., Camden, Lawrence, Kan., Ottawa, and Argentine. Trains were delayed from 1 to 4 hr. because of water, which covered the rails 3 ft. deep in some places, and by dust storms which obscured vision. At Argentine, water covered the floor of the roundhouse.

On the Union Pacific difficulty was experienced at Junction City, Kan., on its line from Limon, Colo., to Denver, on its line from Union to Denver and at Grand Island, Neb.

Modern Passenger Terminal Built at Atlantic City, N.J.

(*Continued from page 884*)

road station and the former double-track approach to the old station of the West Jersey and Seashore Railroad, further to the east. From a point 1.7 mi. from the new station to a wide boat thoroughfare located approximately 2500 ft. from the station, the main lines of the two roads practically paralleled each other only a few hundred feet apart. Crossing the boat thoroughfare on separate swing bridges, the Atlantic's tracks bore southwest directly into its station, while the West Jersey's tracks swung to the southeast to its old South Carolina Avenue station. In the new arrangement, the main lines of the two roads were continued in service south of the 1.7-mile point, at which point they were connected, and immediately south of the boat thoroughfare, the old West Jersey mains were connected directly with the new terminal.

By utilizing both old double-track main lines in approaching the terminal, operation will be simplified during the periods of heaviest travel, while the two swing-bridge crossings of the boat thoroughfare will insure uninterrupted movement into and out of the terminal in the event that one of the bridges becomes inoperative for any reason.

To a large extent, the auxiliary track facilities at the new terminal have been adapted from the existing facilities of the consolidated roads. Thus, the former coach yard and engine terminal of the West Jersey, immediately east of the new passenger terminal, have been rearranged and connected with the station tracks, and the old coach yard of the Atlantic, north of the boat thoroughfare crossing, has been continued in service. These yards, with the addition of several tracks, provide storage for a total of 450 coaches.

Entirely new express and freight house facilities have been provided, located immediately west of the outer end of the station platform area. These include not only a new express building and a new freight house, with platform tracks, but in addition, eight new team tracks, in three pairs with two outside tracks, with 50-ft. paved driveways on both sides of each of the pairs of tracks.

Both the new express building and the new freight house are modern one-story steel and brick structures. The freight house is 36 ft. wide by 237 ft. long, with the south 55 ft. of the building laid out for offices and the remainder as one large freight-handling shed. A covered platform extends along the track side of the building and 110 ft. beyond the north end to afford additional loading and unloading area. Both side and end door unloading ramps are provided.

The express building is of brick and steel construction. The portion serving for office space, vehicle storage, on-hand room and heater room is 25 ft. wide and 50 ft. 10 in. long, while the warehouse portion is 26 ft. 8 in. wide and 104 ft. long, and is provided with a shel-

tered unloading platform at the north end, 16 ft. wide and 20 ft. long.

The consolidation of the operation and facilities of the Pennsylvania and the Reading in South Jersey, as described in this article, and in the earlier article which appeared in the *Railway Age* for June 1, has been carried out under the direction of J. O. Hackenberg, general manager of the Pennsylvania-Reading Seashore Lines. The engineering and construction involved in the extensive physical changes which have been made, including the new Atlantic City passenger terminal, have been planned and carried out under the general direction of T. J. Skillman, chief engineer of the Pennsylvania and of the Pennsylvania-Reading Seashore Lines, and the actual construction has been in charge of C. W. Thorn, assistant engineer of the Seashore Lines. The general contractor on the Atlantic City Terminal work was Anthony P. Miller, Inc., Atlantic City, while the architect for the station building was Donald A. Rosenstein of Rosenstein and Turon, Atlantic City.

Communications . . .

A Letter Written to the Chicago Tribune

DECATUR, ILL.

TO THE EDITOR:

I desire to comment upon your editorial in today's (May 6) Tribune, "Even the Blind Can See." I suppose that your "Voice of the People" column is the only available means of making sure that the blind do see.

Just above the editorial in question, I find these words "to inform and lead public opinion," which you assert is a duty you would fulfill. I am somewhat surprised at the attitude you take in the matter, for surely you are more informed than I as to actual facts.

You must know that Chicago is not on the map today because of its water transportation. It is the second city in the nation because of the fact that it is the rail head of the nation. Railroads made the city and furnish a sizable percentage of its population. They serve its commercial interests; furnish a market for much of its industrial production. Chicago is what it is by virtue of its railroads. Had she been dependent upon the inland waterways to have made her, she would still be the marsh lands and an abandoned Fort Dearborn. Even the Chicago blind should see well enough to know that Chicago users of the Lakes-to-Gulf barge service are actually knifing the thing that made and continues to support Chicago.

Some things are not cheap even though they cost nothing at the time. So it is with barge transportation. The American public would be money ahead to pay the rail rates for the barge shipments and have them go by rail rather than to pay for the development and maintenance of the inland waterways improvements incidental to barge transportation.

Railroads buy their rights-of-ways, pay for the improvement, provide station and terminal facilities at their own expense. They maintain a huge force of maintenance and repair men, besides furnishing a diversified assortment of equipment and motive power—not to mention the many more thousands of employees. The ratio of actual transportation employees of the two services is about five for the railroads to one for the barges for the same tonnage. Two or three men and a tug that represents a smaller investment than an old delapidated switch engine, with a few scows whose total cost represents less than one modern railroad locomotive.

That is the sum total of the barge line. It has little invested upon which to levy taxes. It operates over publicly supported and maintained right-of-way. The cities furnish the terminal facilities. And they charge rates that are calculated to be ruinous to a legitimate enterprise.

The government invasion of the public utilities field is creditable beside the damnable practice of supplying the cut-throat competition of barges, trucks and buses with facilities which the railroads not only must purchase and maintain for themselves, but must pay taxes upon a thousand-fold larger capital investment, and a part of the money goes to provide the facilities for the barge, bus and truck. The American people pay the bill so that some short-sighted molder of public opinion can get a few tons of cargo hauled at a cut-throat rate.

All the people pay so that a few who can be served by the waterways may pocket a few dollars, and those dollars to the economic detriment of their own immediate vicinity.

ROBERT E. PRICE.

Employees' Agreements Should Include "And Any Helpful Acts"

CHICAGO.

TO THE EDITOR:

A recent experience which I have just had while traveling on a railroad demonstrates the urgent need for making operating employees "merchandising conscious" in order that they may protect their own wages. In this instance, train X which I wanted to board did not stop at station A, so it was necessary for me to ride train Y to station B, 30 miles distant, and there transfer to train X. Train Y was scheduled 30 min. ahead of train X and since train Y had not arrived at its scheduled time, I became anxious and asked the station agent if something might have happened to cause train X to run ahead of train Y. He telephoned the dispatcher who reported that train X was not running ahead. He also said that this train would stop at station A to let off a passenger. Having two passengers for this train and wishing to accommodate them by avoiding the transfer at station B, the agent then asked the dispatcher if he could permit these two passengers to board train X at station A. Being close to the phone, I could hear the dispatcher reply, "No, let them transfer where they belong."

When we arrived at station B on train Y, we were 20 min. late. Only one man was working the mail, express and baggage, with no one offering to help him and as a result, train X was delayed another 10 min.

In transferring from train Y to train X, we were forced to walk about 10 car lengths to our Pullman, my wife and myself each carrying two pieces of luggage because there were no red caps at this station. Two train men sat idly by, their chairs inclined against the depot wall, watching us and unconscious of the fact that a little assistance under the circumstances was a part of merchandising. A porter, as we proceeded, finally walked a short distance to assist us, but made the mistake of reaching for my luggage intead of that carried by my wife.

A dispatcher, a baggage man, two train men and two sleeping car porters failed to take advantage of an opportunity to render courteous service to passengers riding their railroad and paying their wages. These employees lived up to the agreement between the railroad and employees governing duties, for such agreements do not even suggest that operating employees render such acts of helpfulness as will encourage a continued use of railroad service. Such employees should be made to realize that their livelihood depends upon the treatment they give their customers, for passengers judge the service by the conduct of the employees with whom they come in contact while traveling.

In contrast to this treatment is that given by employees of air and bus lines. At an airport, even the pilot will go out of his way to carry baggage and stow it for the passenger. The bus driver will relieve the patron of his baggae as quickly as possible, so that the passenger will be free to enjoy his ride. Every railroad employee, no matter where he works, should be just as anxious to extend courtesies to passengers or shippers.

A READER.

NEWS

Railroad Reorganizations Considered by R. F. C.

Jones addresses letters to officers of Milwaukee, D. & R. G. W. and Western Pacific

Tentative or proposed reorganization plans affecting several railroads have been the subject of recent conferences between railroad officers and those of the Reconstruction Finance Corporation. On June 3 Chairman Jones of the R.F.C. addressed a letter to President H. A. Scandrett of the Chicago, Milwaukee, St. Paul & Pacific outlining the terms on which the corporation would be willing to participate in a proposed plan which is to be filed by July 1, involving possible loans of $24,000,000 by the R.F.C. He also made public letters to officers of the Denver & Rio Grande Western and Western Pacific stating that unless reorganization plans were filed at an early date the R.F.C. will feel constrained to prepare and file one. Tentative plans for the Chicago & North Western and Missouri Pacific have also been the subject of recent conferences. In the letter to Mr. Scandrett Mr. Jones said:

"It is our understanding that your plan will be filed on or before July 1, 1935, and will contain substantially the following provisions:

(1) A requirement that only two-thirds of the interest accruing under the general mortgage will be a fixed charge for ten years after the reorganization, the other one-third being payable only to the extent earned, but accumulating and maturing at the end of the ten years.

(2) Interest on the 50-year bonds of 1975, and the Chicago, Milwaukee & Gary First 5's of 1948, will be cumulative but payable only to the extent earned. The board of directors of the road, however, shall have the right to use earnings available for the payment of this interest for the general purposes of the company, including maintenance, additions, and betterments. But whenever there is as much as ten years' unpaid interest on these bonds, the trustee shall, upon the request of 50 per cent of the two issues, declare a default.

(3) The holders of the adjustment 5's of 2000 will be given preferred stock for the face amount of their bonds, waiving accumulated interest, and the present capital stock reduced and rearranged.

(4) Each class of security holders will have proper representation on the Board of Directors.

"Upon your representations as to present and prospective earnings of the property and its probable capital and maintenance requirements; and subject to prior approval by the Interstate Commerce Commission, and all terms and legal details of the various documents being approved by our attorneys; the Reconstruction Finance Corporation will agree, upon request, to lend the company after its reorganization, all or any part of $12,000,000 at 4 per cent for ten years, to be secured by first and refunding bonds in such amounts as may be specified by the Interstate Commerce Commission and the Reconstruction Finance Corporation, and will further agree to buy $12,000,000 of 4 per cent equipment trust certificates, maturing over a period acceptable to this Corporation, the borrower paying not less than 20 per cent cash on the purchase price of such equipment.

"We will also extend our present loan for ten years at 4 per cent upon the security now held. Our participation in the plan as above outlined, will also be conditioned upon all legal fees, and fees and expenses of all committees being, in the opinion of our directors, reasonable. Our commitment will be on the further condition that the reorganization is completed prior to December 31, 1935."

In similar letters addressed to Thomas M. Schumacher and L. W. Baldwin relating to the D. & R. G. W. and Western Pacific he said:

"I appreciate that it is not easy to get a meeting of minds on any reorganization plan for a railroad—especially where there are several classes of security holders. I also feel that those who speak for security holders in such reorganizations, usually have other things to do and cannot give the necessary attention to the formulation or consideration of such plans as promptly as they might. We have had a number of meetings with you and others interested in the Western Pacific and I feel that the time is at hand when a plan of reorganization and capital readjustment should be submitted. I am therefore writing to advise you that unless a plan is filed at an early date, the Reconstruction Finance Corporation will feel constrained to prepare and file one.

"We want to be helpful in the matter of reorganizing those railroads that are unable to meet their fixed charges, and in every instance will co-operate to the end. If desired, I shall be glad to again confer with you and others interested in the Western Pacific, at some convenient early date."

Hearings Begun on Bills Sponsored by Rail Labor

Sub-committee of Senate committee on interstate commerce takes up measures

A series of hearings on the bills constituting the legislative program of the Railway Labor Executives' Association, most of which had been introduced in Congress at the last session, was begun on June 4 before a sub-committee of the Senate committee on interstate commerce headed by Senator Lonergan, of Connecticut. The program includes the six-hour day bill, the full-crew bill, the train-limit bill, and others, but the first one taken up was S. 543, introduced by Senator Murray, of Montana, to provide for a system of federal inspection of maintenance of way, bridges, etc., under general direction of the Interstate Commerce Commission, somewhat similar to the present organization for inspection of locomotives and safety appliances.

The bill provides for the appointment of a chief inspector and four assistant chief inspectors, and the division of the territory into 20 track and 10 bridge inspection districts, for each of which inspectors would be appointed by the commission. Each carrier subject to the act would be required to file its rules and regulations for the inspection of tracks, bridges, and appurtenances, and, after hearing and approval by the commission, such rules and regulations, with such modifications as the commission might require, would be made obligatory upon the carriers.

The first witness for the bill was L. E. Keller, representing the Brotherhood of Maintenance of Way Employees, who also filed a statement in support of the bill by F. H. Flzozdal, president of the organization. Mr. Keller began by citing voluminous statistics regarding railroad accidents in general in the period from 1923 to 1933, saying there had been 24,655 accidents due to defective or improper maintenance of ways and structures. These were followed by others showing the decline in maintenance of way expenditures and employment during the period and a gradual increase in the mileage assigned to a section foreman. He said the number of employees in track gangs had been reduced from 210,000 to 107,846 and that due to part time employment the actual number of man-hours per mile of track had decreased 66 per cent during the period. Total expenditures for maintenance of way and structures, he said, had been reduced from an average of $836,000,000 for the years

1923 to 1929 to $322,000,000 in 1933, and from various statistics he deduced that the railroads had fallen behind three years in rail replacement, two years in cross-tie replacement, and two and one-quarter years in loss of employment or deferred maintenance work. He also referred to the increase in speed of trains during the period but not to the reduced length of trains in recent years. Railroad managers know the unsafe conditions thus brought about, he said, but have to do the best they can with available funds, and he urged passage of the bill to compel "those who control the purse-strings" to loosen them.

Testimony in opposition to the bill was given by R. B. Bell, assistant chief engineer of the Atchison, Topeka & Santa Fe, and J. V. Neubert, chief engineer maintenance of way of the New York Central, members of a special committee that has made a study of the proposed bill. Mr. Bell said that if it became a law the railroads virtually would be at the mercy of the orders of the federal bridge and track inspectors requiring the expenditure of large sums and that although provision is made for an appeal to the commission practical considerations would make it difficult for it to pass on the questions. He said that the bill is wholly unnecessary, as the railroad property of the United States is now maintained in a safe and suitable condition, and that the records show that during the period described by Mr. Keller, as well as in prior periods, there has been a large reduction in the number of accidents. The number of accidents that might be attributed to inadequate maintenance, he said, had decreased more than the reduction in train-miles and curtailment of maintenance had not been at the expense of safety. Julius H. Parmelee, director of the Bureau of Railway Economics, pointed out that comparisons of conditions in 1923 and 1933 are vitiated by the decline in traffic, train-miles having been decreased 35 per cent and traffic over 50 per cent, and also by the fact that in 1923 the railroads were making expensive capital improvements, including track improvements which involved the employment of large maintenance forces. He also said that in the period 1923-1929 railroad freight traffic was on the highest plateau ever reached and that in 1933 traffic was greatly reduced and both wage rates and prices of materials were reduced. The witness had failed to call attention, he said, to the fact that during the period casualties were showing a steady decline and that in 1933, as compared with 1923, total casualties to all nontrespassers showed a decrease of over 50 per cent. Dr. Parmelee also gave statistics showing the present financial condition of the railroads and that recent increases in operating revenues have been more than offset by increased expenses, with the result that in the first three months of 1935 the railroads had a net deficit of $45,000,000. or three times that for the corresponding period of last year.

S. A. Maginnis, representing the American Short Line Railroad Association, also appeared in opposition to the bill, saying that there had not been an accident on any of the lines he represented since 1920 attributable to the failure of the carrier to maintain its tracks or bridges properly. He said the bill would impose unnecessary burdens on the carriers and add to the bureaucracy of the government.

On May 4 consideration was begun of S.27, the train-limit bill, on which extensive hearings were held during the last session of Congress without result. Testimony was given by W. D. Johnson, vice-president of the Order of Railway Conductors, and J. A. Farquharson, vice-president of the Brotherhood of Railroad Trainmen, who cited numerous examples of casualties to train employees ascribed to read-end shocks. The bill would prohibit the operation of freight trains exceeding 70 cars or one-half mile in length. Mr. Farquharson said one difficulty was that the railroads have measured the length of trains by the power of the locomotive rather than with reference to the braking capacity.

He said the new AB brake is still in the experimental stage and that even if it proves satisfactory the railroad association has provided for a ten-year period before all cars are equipped with it—"ten years during which we will continue to suffer from the conditions of which we have complained." E. T. Rafferty, state legislative representative of the B. R. T. for Kansas, and Richard Abrams, chairman of the legislative board of the brotherhood for Illinois, emphasized the difficulty or, as they described it, the practical impossibility of transmitting hand signals from one end to another of the long trains. This condition, they said, requires unexpected emergency stops which cause break-in-two's and injuries to the trainmen. Mr. Abrams described a series of tests conducted in conjunction with the railroad inspector of the Illinois Public Service Commission with trains consisting of 55, 65, 75, and 85 cars in which 23 hand signals from the rear of the train were all misunderstood by the engineer and most of them by other observers at the head end, and he said that although the day was somewhat hazy the conditions were better than are usually encountered in ordinary service. He also described some tests with oil lanterns at night which he said indicated that the signals were not clear beyond 3,200 feet. W. B. Stedman, a freight conductor on the Chicago, Burlington & Quincy who had been injured by a break-in-two, said that he worked on trains averaging from 115 to 125 cars and had handled 170 cars. He said it was impossible to transmit signals from one end of the train to the other unless there is an intermediate man, and that the only remedy is to apply the brakes which is likely to cause an accident. E. G. Stanton, a freight brakeman on the Chesapeake & Ohio, described the gradual introduction of the AB brake on his division, saying that it had caused a great deal of difficulty by causing undesired emergency stops and was still in the experimental stage.

Testimony on behalf of the railroads in opposition to the bill was to be given on Thursday.

Net Railway Operating Income For Four Months 1.81 Per Cent

Class I railroads for the first four months of 1935 had a net railway operating income of $121,282,899, which was at the annual rate of return of 1.81 per cent on their property investment, according to reports compiled by the Bureau of Railway Economics of the Association of American Railroads. In the first four months of 1934, their net railway operating income was $145,130,072, or 2.15 per cent on their property investment. Operating revenues for the four months totaled $1,074,709,087, compared with $1,065,078,295 for the same period in 1934, an increase of 0.9 per cent. Operating expenses for the first four months of 1935 amounted to $833,802,630, compared with $793,945,653 for the same period in 1934, an increase of 5 per cent.

Class I railroads in the first four months of 1935 paid $80,553,258 in taxes, compared with $83,920,330 in the same period in 1934, or a reduction of 4 per cent. For the month of April alone, the tax bill amounted to $20,524,476, a reduction of 4 per cent under April, 1934.

Forty-eight Class I railroads failed to earn expenses and taxes in the four months, of which 11 were in the Eastern district, 9 in the Southern and 28 in the Western.

Class I railroads for April alone had a net railway operating income of $34,625,786, at the rate of 2.02 per cent. In April, 1934, their net railway operating income was $32,433,939, or 1.89 per cent. The net for April this year is somewhat in excess of actual earnings for the month, as some railroads made credits to their operating expenses to offset accrued charges under the provisions of the railroad retirement act, which has since been declared unconstitutional. Operating revenues for April amounted to $274,651,964, compared with $265,405,934 in April, 1934, an increase of 3.5 per cent. Operating expenses in April totaled $209,327,823, compared with $200,203,270 in the same month in 1934, or an increase of 4.6 per cent.

Class I railroads in the Eastern district for four months had a net of $90,554,987, at the rate of 2.72 per cent. For the same period in 1934 their net was $95,437,485,

CLASS I RAILROADS—UNITED STATES

Month of April

	1935	1934	Per Cent of Increase
Total operating revenues	$274,651,964	$265,405,934	3.5
Total operating expenses	209,327,823	200,203,270	4.6
Taxes	20,524,476	21,383,214	D. 4.0
Net railway operating income	34,625,786	32,433,939	6.8
Operating ratio—per cent	76.22	75.43	....
Rate of return on property investment	2.02%	1.89%	....
Four months ended April 30			
Total operating revenues	$1,074,709,087	1,065,078,295	0.9
Total operating expenses	833,802,630	793,945,653	5.0
Taxes	80,553,258	83,920,330	D. 4.0
Net railway operating income	121,282,899	145,130,072	D.16.4
Operating ratio—per cent	77.58	74.54	....
Rate of return on property investment	1.81%	2.15%	....

or 2.88 per cent. Operating revenues in the Eastern district for four months totaled $564,017,444, an increase of 0.3 per cent compared with 1934, while operating expenses totaled $414,133,271, an increase of 2.3 per cent. Railroads in the Eastern district for April had a net of $21,873,030, compared with $21,512,009 in April, 1934.

Class I railroads in the Southern district for the four months had a net of $17,960,785, at the rate of 1.59 per cent. For the same period in 1934 their net amounted to $25,127,802, at the rate of 2.22 per cent. Operating revenues in the Southern district for four months amounted to $143,470,032, a decrease of 0.8 per cent compared with the same period in 1934, while operating expenses totaled $111,600,067, an increase of 6.7 per cent. Railroads in the Southern district for April had a net of $5,444,425, compared with $5,422,754 in April, 1934.

Class I railroads in the Western district for four months had a net of $12,767,127, at the rate of 0.57 per cent. For the same four months in 1934 they had a net of $24,564,785, at the rate of 1.07 per cent. Operating revenues in the Western district for four months amounted to $367,221,611, an increase of 2.6 per cent above the same period in 1934, while operating expenses totaled $308,069,292, an increase of 8.3 per cent. For April the railroads in the Western district reported a net of $7,308,331, compared with $5,499,176 for the same roads in April, 1934.

N. Y. Chapter Railway & Locomotive Historical Society

Members of the New York Chapter of the Railway & Locomotive Historical Society have been invited by the Delaware & Hudson to inspect that road's Colonie shops on Sunday, June 16. Col. J. T. Loree, vice-president and general manager of the D. & H. and a member of the Society, has arranged to have the first triple-expansion, high-pressure locomotive, the "L. F. Loree," on exhibition along with the replica of the "Stourbridge Lion," and a number of other locomotives depicting motive power development on the D. & H. Special bus service has been arranged to carry the party from Albany, N. Y., to the shops.

At the next meeting of the New York chapter, to be held on June 14 in room 1101 of the Engineering Societies building, 29 West Thirty-nine street, New York. Sidney Withington, electrical engineer of the New York, New Haven & Hartford, will speak on "The Development of the Electric Locomotive." Interested persons not members of the society are invited to attend the regular monthly meetings.

A. A. R. Approval Required of Untried Freight-Car Designs

Circular instructions to car owners and builders have recently been issued by the secretary of the Association of American Railroads, Mechanical Division, as follows:

"'Rule 3. No car of an untried type, whether built new, altered or changed, shall be offered or accepted in interchange, nor accepted from car owner, until its size, capacity and design shall have been approved by the Transportation and Mechanical Divisions of the Association of American Railroads.'

"This rule was promulgated previous to present extensive activities on the design and construction of light-weight alloy-steel freight-equipment cars and high-tensile trucks of reduced weight.

"In view of present and probably future developments of this character, it is desired again to bring to the attention of all concerned, including railroads, car builders, truck manufacturers and others involved, the provisions of this rule and to emphasize the importance of compliance therewith in order to avoid interference with progress and the possibilities of unnecessary delays and expense.

"It is therefore urged that the Mechanical Division of the A. A. R. be given reasonable opportunity in all cases, to pass on such designs, including running gear features which affect proper train operation, such as truck frames and bolsters, axles, wheels, brake arrangements, coupling devices and draw-gear attachments.

"To this end, proper action should be taken before such propositions have advanced to the point where commitments have been made for materials or where parts have been released for production. Unless such developments are called to the attention of the proper divisions of the A. A. R. before reaching the latter stage, necessary changes cannot then be made without incurring difficulties, such as delays and extra expenses.

"During a period of rapid change, such as the present when new materials, designs and methods are being offered for the advancement of the railroad equipment art, to which existing A. A. R. specifications may not apply, this general subject is of special importance and requires the careful attention and close co-operation of all concerned."

Net Deficit for Three Months $45,450,054

Class I railroads in the first three months of 1935 had a net deficit of $45,450,054, after interest, rentals, depreciation and retirements, according to the Interstate Commerce Commission's monthly compilation of selected income and balance-sheet items.

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS IN THE UNITED STATES

Compiled from 143 Reports (Form IBS) Representing 149 Steam Railways

TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of March 1935	For the month of March 1934	*Income Items*	For the three months of 1935	For the three months of 1934
$37,850,974	$52,217,076	1. Net railway operating income	$84,773,573	$112,696,134
13,231,225	14,641,419	2. Other income	38,066,725	40,537,667
51,082,199	66,858,495	3. Total income	122,840,298	153,233,801
10,987,250	11,064,454	4. Rent for leased roads	32,771,845	33,006,171
43,623,531	43,351,940	5. Interest deductions	130,529,084	130,155,249
1,373,228	1,811,529	6. Other deductions	4,989,423	5,346,303
55,984,009	56,227,923	7. Total deductions	168,290,352	168,507,723
		8. Net income:		
d 4,901,810	10,630,572	8-01. After depreciation and retirements	*d 45,450,054*	*d 15,273,922*
11,278,938	26,661,440	8-02. Before depreciation and retirements	2,837,989	32,348,128
		9. Dividend declarations (from income and surplus):		
2,883,211	6,735,783	9-01. On common stock	17,271,490	22,796,101
.....	.....	9-02. On preferred stock	3,295,850	3,296,100

	Selected Asset Items	Balance at end of March 1935	Balance at end of March 1934
10.	Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$775,360,205	$752,537,129
11.	Cash	$338,219,934	$302,372,772
12.	Demand loans and deposits	10,716,873	31,099,395
13.	Time drafts and deposits	40,800,230	42,076,369
14.	Special deposits	76,931,788	47,389,677
15.	Loans and bills receivable	5,004,940	7,353,125
16.	Traffic and car-service balances receivable	57,777,357	60,933,446
17.	Net balance receivable from agents and conductors	43,407,542	42,304,098
18.	Miscellaneous accounts receivable	144,084,493	141,976,478
19.	Materials and supplies	307,436,186	299,817,831
20.	Interest and dividends receivable	39,024,932	37,236,126
21.	Rents receivable	3,258,709	2,680,391
22.	Other current assets	10,706,119	4,146,714
23.	Total current assets (items 11 to 22)	$1,077,369,103	$1,019,386,422
	Selected Liability Items		
24.	Funded debt maturing within 6 months*	$240,524,792	$265,557,184
25.	Loans and bills payable†	$318,356,653	$341,865,336
26.	Traffic and car-service balances payable	70,415,977	72,541,284
27.	Audited accounts and wages payable	207,908,575	202,100,754
28.	Miscellaneous accounts payable	91,473,010	47,948,125
29.	Interest matured unpaid	345,922,509	263,129,771
30.	Dividends matured unpaid	16,086,081	16,155,161
31.	Funded debt matured unpaid	282,086,813	112,156,338
32.	Unmatured dividends declared	1,122,886	833,191
33.	Unmatured interest accrued	107,079,084	105,115,298
34.	Unmatured rents accrued	30,938,983	29,974,182
35.	Other current liabilities	26,906,789	19,854,716
36.	Total current liabilities (items 25 to 35)	$1,498,297,360	$1,211,674,156
37.	Tax liability (Account 771):		
	37-01. U. S. Government taxes	$33,776,745	$33,034,723
	37-02. Other than U. S. Government taxes	136,736,574	147,397,335

* Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within 6 months after close of month of report.
† Includes obligations which mature less than 2 years after date of issue.
d Defiit.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE $25,000,000

Name of railway	Net income after depreciation and retirements — For the three months of 1935	Net income after depreciation and retirements — For the three months of 1934	Net income before depreciation and retirements — For the three months of 1935	Net income before depreciation and retirements — For the three months of 1934
Alton R. R.	d $413,232	d $445,183	d $331,092	d $401,397
Atchison, Topeka & Santa Fe Ry System (a)	d 2,286,291	d 1,064,395	593,181	1,802,020
Atlantic Coast Line R. R.	979,760	2,138,717	1,560,845	2,667,725
Baltimore & Ohio R. R.	d 621,708	d 1,950,854	1,098,525	d 38,822
Boston & Maine R. R.	d 534,663	d 382,907	d 128,048	19,291
Central of Georgia Ry.	d 737,011	d 569,017	d 541,621	d 369,284
Central R. R. of New Jersey	d 664,621	600,231	d 246,539	1,129,620
Chesapeake & Ohio Ry.	7,102,271	7,047,609	9,186,946	8,796,917
Chicago & Eastern Illinois Ry.	d 221,471	d 500,635	d 66,722	d 382,313
Chicago & North Western Ry.	d 3,506,873	d 2,340,531	d 2,220,694	d 1,212,191
Chicago, Burlington & Quincy R. R.	d 1,183,093	1,028,662	95,389	1,826,440
Chicago Great Western R. R.	d 730,332	d 390,014	d 599,059	d 257,992
Chicago, Milwaukee, St. Paul & Pacific R. R.	d 5,453,841	d 4,203,357	d 4,039,712	d 2,480,416
Chicago, Rock Island & Pacific Ry.	d 4,560,869	d 3,028,905	d 3,438,548	d 1,765,573
Chicago, St. Paul, Minneapolis & Omaha Ry.	d 763,267	d 403,629	d 604,615	d 266,932
Delaware & Hudson R. R.	d 1,020,617	d 387,166	d 767,790	d 112,731
Delaware, Lackawanna & Western R. R.	d 749,578	d 374,133	d 71,385	258,503
Denver & Rio Grande Western R. R.	d 1,064,097	d 765,300	d 766,318	d 509,594
Elgin, Joliet & Eastern Ry.	494,980	d 243,650	718,879	d 17,242
Erie R. R. (including Chicago & Erie R. R.)	d 423,262	622,111	639,254	1,777,668
Grand Trunk Western R. R.	d 166,228	d 100,963	101,619	131,669
Great Northern Ry.	d 4,558,507	d 4,211,282	d 3,722,595	d 3,312,171
Illinois Central R. R.	d 689,653	d 110,810	1,238,112	1,574,616
Lehigh Valley R. R.	d 639,549	375,245	d 29,535	846,498
Long Island R. R.	d 832,528	d 215,486	d 569,941	26,695
Los Angeles & Salt Lake R. R.	d 102,979	d 155,685	90,576	2,001
Louisville & Nashville R. R.	701,382	1,956,047	1,756,413	3,012,188
Minneapolis, St. Paul & Sault Ste. Marie Ry.	d 2,068,598	d 1,735,818	d 1,795,428	d 1,372,293
Missouri-Kansas-Texas Lines	d 1,539,913	d 1,113,869	d 1,211,249	d 871,907
Missouri Pacific R. R.	d 4,719,407	d 3,120,147	d 3,614,247	d 1,921,442
New York Central R. R. (b)	d 1,684,849	d 1,171,977	2,475,387	2,646,479
New York, Chicago & St. Louis R. R.	171,293	349,338	583,978	689,481
New York, New Haven & Hartford R. R.	d 1,291,802	d 1,094,777	d 421,353	d 77,372
Norfolk & Western Ry.	4,568,032	5,125,558	5,578,794	6,300,440
Northern Pacific Ry.	d 3,539,455	d 2,100,320	d 2,732,634	d 1,382,500
Oregon Short Line R. R.	110,117	96,839	371,715	334,016
Oregon-Washington R. R. & Navigation Co.	d 917,608	d 695,122	d 770,642	d 559,770
Pennsylvania R. R.	2,477,307	4,519,143	7,465,875	9,687,398
Pere Marquette Ry.	361,386	402,891	1,006,644	975,413
Pittsburgh & Lake Erie R. R.	670,313	623,524	1,098,089	1,209,819
Reading Co.	909,586	2,485,225	1,672,648	3,273,556
St. Louis-San Francisco Ry.	d 3,341,004	d 2,010,630	d 2,558,526	d 1,210,908
St. Louis Southwestern Lines	d 68,923	d 418,140	88,256	d 287,319
Seaboard Air Line Ry.	d 1,819,194	d 1,191,907	d 1,358,721	d 761,681
Southern Ry.	d 1,124,924	31,743	d 420,905	812,946
Southern Pacific Transportation System (c)	d 3,083,613	d 4,019,628	d 1,731,829	d 2,632,841
Texas & Pacific Ry.	d 146,521	51,583	155,348	350,360
Union Pacific R. R.	2,713,345	4,138,942	3,703,547	5,217,160
Wabash Ry.	d 815,098	d 772,653	d 273,474	d 325,812
Yazoo & Mississippi Valley R. R.	d 780,952	d 573,049	d 631,013	d 428,970

(a) Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
(b) Includes Boston & Albany, Michigan Central, and Big Four Lines, lessors to New York Central R. R.
(c) Includes Southern Pacific Company and Texas & New Orleans R. R.
d Deficit.

This compares with a net deficit of $15,273,922 for the corresponding period of last year. For March there was a net deficit of $4,901,810, as compared with a net income of $10,630,572 in March, 1934. The commission's figures appear in the accompanying tables.

I. C. C. Prescribes Equipment Depreciation Percentages

In accordance with the provisions of its order of July 28, 1931, the Interstate Commerce Commission has issued a series of additional sub-orders prescribing percentage rates for depreciation of various classes of railroad equipment for a list of 75 additional railroads.

Air-Conditioned Local Train Placed in Service on B. & O.

A three-car train, powered by two Diesel-electric motors of 300 h.p. each, started regular service June 3 on the Baltimore & Ohio, making three round trips a day between Baltimore, Md., and Washington, D. C. All the cars have been newly upholstered and, the announcement says, it is believed that this is the first fully air-conditioned train ever put into local service on any railroad.

The engines are housed in the forward part of the first car, the balance of which is given over to a smoking compartment, with chairs upholstered in leather. The other two cars are of the standard individual seat B. & O. type, with modern color treatment and linen headrests on the seats. This train is not to be confused with the new light-weight, high-speed train which will shortly be placed in service on the B. & O. between Washington and New York, and for which the B. & O. will soon have an 1,800 h.p. Diesel-electric locomotive.

Seek to Have Equipment Loans Restricted to Railway Shops

Demands from members of the House of Commons at Ottawa that a larger share of the aid by the Dominion government to the two railways to enable them to purchase new equipment be divided among the shops of the two railways throughout the country and that less be provided for construction of equipment by private companies independent of the railways featured the debate last week of the measure providing federal backing to the extent of $15,000,000 to the two railways, of which $8,000,000 would go to the Canadian National and the remainder to the Canadian Pacific.

The Minister of Railways, Hon. Robert J. Manion, resisted these demands and declared it was the desire of both roads that the private industries making railway equipment in Canada be kept in business. The Minister read statements from President S. J. Hungerford of the Canadian National and Vice-President D. C. Coleman of the Canadian Pacific declaring that it would be a calamity if the private equipment firms were driven out of existence through lack of orders and the Canadian roads were obliged to go to foreign countries for equipment.

I. C. C. Modifies Form of Income Statement

The Interstate Commerce Commission has issued an order, effective on June 1, modifying its uniform system of accounts for steam roads relating to the form of income statements in the classification of income, profit and loss, and general balance sheet accounts. Among other changes the form requires a supplementary statement showing net railway operating income before depreciation of way and structures and equipment, net income before federal income taxes, and net income before depreciation and federal income taxes.

E. W. Beatty Knighted

E. W. Beatty, K. C., chairman and president of the Canadian Pacific, is now Sir Edward Beatty, G.B.E., the King having made him a Knight Grand Cross of the Order of the British Empire on the honors list which was issued in honor of the King's birthday on June 3. Sir Edward, in addition to his work in the transportation world, is also chancellor of McGill University, Montreal, and has been active in philanthropic work, particularly for under-privileged boys, and in many other spheres has been a leader in Canadian life.

Erie to Use L. V. Station in Buffalo

The New York State Public Service Commission announces that permission has been given to the Erie to discontinue its passenger station, at Michigan and Exchange streets, in Buffalo, N. Y., and to run its trains to and from the Lehigh Valley station, at Washington and Main streets. The present Erie station is 60 years old and lacks certain facilities; and the street car service to it has been discontinued. The Commission says that the Lehigh Valley has 14 trains in and out each day, and the Erie 13 trains, and that the station is adequate and convenient. The Erie's passengers to and from the city daily number about 200, of whom 175 are commuters.

Progress in R. C. C. Liquidation

In the two-year period since liquidation of its affairs began, The Railroad Credit Corporation has returned $23,548,324 to participating carriers or 32 per cent of the net emergency freight revenues collected by it, according to a report filed with the Interstate Commerce Commission. Of this amount $14,038,233, or 19 per cent, was returned in the year ended on May 31, 1934, while $9,510,091 or 13 per cent was returned in the year ended on May 31, 1935.

The Railroad Credit Corporation, on May

31, this year, made its seventeenth distribution to participating carriers. The distribution on that date amounted to $735,885 or one per cent, of which $379,824 was in cash and $356,061 in credits. Under the provisions of the plan the term of loans was limited to two years, renewable for an additional period of not to exceed two years, in the discretion of the corporation. While the time limitation for renewals expired on May 31, the Corporation has, under its charter, until December 31, 1937, to effect final liquidation of the remaining outstanding obligations.

Says C. N. R. Recapitalization Opposed by Bennett

Prime Minister Bennett vetoed a proposal to write down the capital structure of the Canadian National, it was stated by Hon. C. P. Fullerton, chairman of the board of trustees of the Canadian National, at a stormy meeting of the Railways and Shipping Committee of the House of Commons at Ottawa last week. Liberal members like Hon. W. D. Euler and Ross Gray seized on this admission, contending that the Prime Minister is opposed to any writing down of the capital structure of the publicly-owned system.

Hon. Robert J. Manion, Minister of Railways, was just as quick to repudiate the suggestion of the Liberal members. "The Prime Minister is not opposed to any such thing," declared the Minister warmly.

Mr. Euler maintained that the Government was blocking the recapitalization plan and added "Actions speak louder than words."

Rotary Convention in Mexico City to Be Large

The International Rotary convention at Mexico City on June 17-21 will probably result in the largest visitation of citizens of the United States ever to be carried out in a foreign country for the purpose of attending a gathering of this kind. The Missouri Pacific plans to operate 22 special trains in addition to 12 additional cars on its regular trains. It plans to serve 150,000 meals, the largest single task ever undertaken by a railroad dining car department, and will use 44 dining cars. Orders have been placed for 120,000 lb. of meats, 108,000 eggs, and other things in proportion. More than 500 tons of ice will be required to keep the food stuffs and to operate air-conditioning apparatus.

A total of 440 stewards, cooks and waiters will be required to man the dining cars. Some 25 inspectors, supervisors and instructing chefs will supervise the service and the temporary commissary will be set up at Mexico City.

Dining cars as well as Pullman and baggage cars will be parked at Mexico City in "Pullman City" which the railroads and the Pullman Company are constructing. More than 100 auxiliary buildings have been put up, these including not only shower baths and similar facilities for both men and women, but also laundries, beauty parlors and barber shops.

Pullman City will be operated as nearly as possible as a large hotel during the conventions of Rotary and the International Lion's Club which will be held at Mexico City in July. Dining cars will be operated as restaurants throughout the convention. Lounge-dining cars from special trains also will be used in Pullman City to provide accommodations similar to the lounge lobbies of hotels. These cars are equipped with soda fountains and radio.

Pennsylvania Exhibition Train

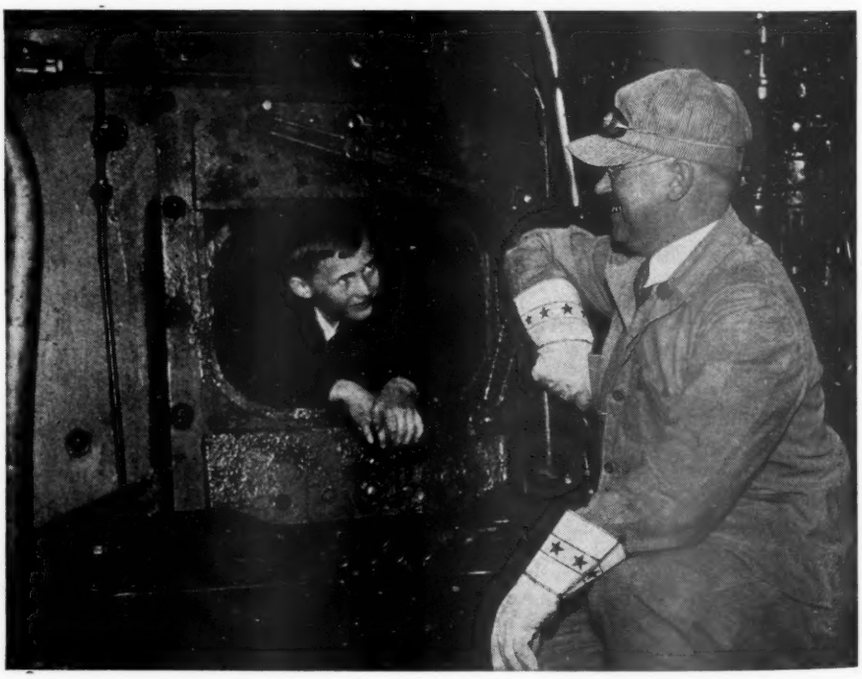
Approximately 17,000 persons, including a large delegation of school children, inspected the Pennsylvania's modern all-steel, air-conditioned, steam passenger train which was exhibited in Pennsylvania station, Pittsburgh, Pa., from May 18 to 21, inclusive. Many of those visiting the exhibit had never before seen the interior of a modern passenger train, according to E. W. Smith, vice-president of the Pennsylvania at Pittsburgh.

The train consisted of a K-4-s type locomotive and eight cars. Visitors were permitted to climb into the cab of the locomotive where an engineer was on duty to answer all questions. Leaflets describing technical details of the locomotive were distributed and attendants scattered throughout the train explained the air conditioning equipment and other features. The program for the first day of the exhibit included a radio broadcast from the lounge-observation car.

During the week of May 27 the train was exhibited a day each at Williamsport, Pa., Harrisburg, Lancaster and York. At which points one of the Pennsylvania's new streamlined electric locomotives of the GG-1 type accompanied it as an "added attraction." During this four-day tour the train was visited by more than 35,000 persons. A special effort was made to interest the heads of schools in each of the four cities. In response entire classes in charge of their teachers left their school rooms to view the train. At Lancaster 75 boys from the New Street Trade School accompanied by four of their professors spent an hour or more on going through the train. They made it the occasion of a discussion on transportation. Following the stay at York, the junior high school and the fifth and sixth grade students were required to write a paper on their visit to the train. In each of the cities the mayor, city officials and the most prominent citizens passed through the locomotives and the train. Hundreds of people asked questions and adults as well as school children were keenly interested in the exhibition and commented at length to railroad representatives on the train of the new impressions and thoughts concerning rail transportation which they had received.

Roads Ask I. C. C. to Leave Passenger Fares to Carriers' Judgment

The railroads generally, in briefs filed with the Interstate Commerce Commission in connection with its investigation of passenger fares and surcharges, are asking that the commission recognize the occasion for different rates of fare in different sections of the country and that it refrain from issuing orders prescribing the level of passenger fares but leave the matter to the managerial discretion of the railroads. The eastern roads, other than the Baltimore & Ohio, which at the hearings expressed itself as in favor of a reduction in basic fares, said that a fare structure suitable in the judgment of the carriers in one section of the country should not be imposed upon the eastern carriers when in their judgment such a reduced fare structure will deplete their revenues. The record affords no warrant, they continued, for the commission to overrule the judgment of the eastern carriers that a reduction in basic fares would result in net losses, and they urged that the proceeding be discontinued. Western roads in their brief said that the problem is essentially



Courtesy: Pittsburgh Sun-Telegraph

Engineer W. M. Kinkhead on Pennsylvania Exhibit Train at Pittsburgh Explains the K-4-S to Bob Martin, Schoolboy, Who Climbed Into the Firebox to Obtain First-Hand Knowledge

one of management and that while the results of the western experiment with reduced rates are so far encouraging they do not afford a basis to support any rigid order. The evidence of record suggests, they said, that the carriers in the western territory should be permitted to work out their own solution of the perplexing passenger problem.

Wallace Apportions $400,000,000 for Roads and Grade Crossing Work

Secretary of Agriculture Henry A. Wallace on June 4 announced the apportionment among the States, the District of Columbia and Hawaii of $200,000,000 for highways, roads and streets and $200,000,000 for elimination of hazards at railroad grade crossings under the Emergency Relief and Appropriation Act of 1935. These sums are allocations made by the Advisory Committee on Allocations on May 16 and approved by the President, as reported in the *Railway Age* of May 25 where a table of the amounts by states was published.

The funds apportioned are not available for expenditure in any state until a program of the projects proposed to be undertaken in the state shall be submitted by its highway department and approved by the Advisory Committee on Allotments. It is also provided that no individual project will be approved for construction in any State until the highway department of the State has submitted and obtained approval of a program of projects that will absorb substantially all Federal emergency funds previously apportioned. Subject to these conditions the funds are available for immediate expenditure and will be administered through the Bureau of Public Roads. They are to be expended by the State Highway Departments.

Old Age Pensions Subject of Factual Survey

A comprehensive factual survey of old age pensions, entitled "Old Age Security—Social and Economic Aspects of the Problem," has been issued by the Committee on Social Legislation of the National Conference of Business Paper Editors and the Associated Business Papers, Inc. This survey, the second of a series of factual studies dealing with current national questions of interest to industry, first points out the salient features of the Wagner pension bill now pending before Congress, under which the cost of old age security is to be shared equally by employees and employers, and then deals briefly with the various factors that have brought about wide-spread agitation for legislation providing for the care of aged persons who are entirely dependent on society for their support.

The report then reviews the progress of old age pension legislation in the states and analyzes the cost and workability of the plans that are now in effect in 28 states and 2 territories.

A similar survey is made of industrial pension plans and of other systems, such as those applying to government employees and to ministers. The report presents analyses of the various pension systems in effect in foreign countries. It also discusses the Townsend plan and closes with an analysis of the cost of the Wagner plan. Copies of this survey may be obtained, at 10 cents each, from the Associated Business Papers, Inc., 340 West Forty-second street, New York.

Railways Included in Job Insurance, Short Week Legislation in Canada

The unemployment insurance bill introduced and passed in the House of Commons at Ottawa before Easter has now been passed by the Senate with many changes. The bill as it emerged from the House included railway employees, particularly head office staffs, while banks and other financial institutions were excluded. Officers of the Canadian Pacific and Canadian National protested against what they regarded as discrimination against the railways. This protest was heeded by the Senate and the discrimination was removed by including employees of banks and financial institutions.

Railway men are also keeping close watch on the Senate committee which is dealing with the bill providing for an eight-hour day and a 44-hour week. The committee is now hearing representations from various interests. At the last meeting of the committee last week for the Railway Association of Canada, E. P. Flintoft, counsel also for the Canadian Pacific and A. J. Hills, director of personnel of the Canadian National, argued in favor of maintaining the amendment of the House excepting train and engine employees until March 31, 1936.

This attitude was supported earlier by officers of unions of locomotive engineers, conductors and firemen, in opposition to representations on behalf of unemployed railwaymen that the act should be applied to the railwaymen three months after Royal Assent, as in other branches of labor.

"Instead of getting a year we are really only getting nine months to revise our working agreements," Mr. Flintoft stated. Postponement of the debate on which the act would come into effect regarding railwaymen applied not only to running trades but to other railway trades, involving 18 working agreements, and it would take a minimum of nine months to effect the necessary revisions.

"Make Work" Bills Assailed

The "make work" bills now before Congress as part of railway labor's legislative program will, if enacted, "cause wholesale breakdown and bankruptcy of the railroads in this country, and will inevitably lead to government ownership" said Raynard F. Bohman, traffic manager of the Heywood-Wakefield Company, in a recent address before the Rotary Club of Gardner, Mass. Mr. Bohman further told his audience of business men that the fight against these uneconomic proposals is their fight and thus he asked: "Are you going to sit idly by and permit the railway labor organizations to undermine the one transportation agency upon which American business is dependent, or are you, the buyers of rail transportation, going to recognize your responsibility and go to work in a wholehearted effort to defeat such unwarranted legislation?"

The enactment of the six-hour day bill, the train limit bill and the so-called full-crew bill would add not less than $600,000,000 a year to railroad operating expenses, Mr. Bohman said. "In New England alone the six-hour day would increase operating costs $23,925,000 in round figures, which amount exceeds by $7,814,000 the entire net operating revenue of New England railroads in 1934."

"Such an overwhelming artificial increase in railroad operating costs" he continued "would force many railroads into bankruptcy and a national calamity would surely follow in its wake. It is not necessary to dwell upon the adverse effect on any program looking to national recovery which would follow such a shock to commerce and credit as would be involved in wholesale railroad default, bankruptcy and breakdown, with all that would mean to those who work on the railroads, those who own them, those who use them, those who supply them, and to the whole fabric of the country's business."

The speaker then analyzed each of the bills in turn, pointing out that their "obvious intent" is to "make work" on the railroads but adding that "no law can put men on a railroad pay-roll if the railroad has no money to pay the wages." Any effort along such lines, he warned, can lead only to government ownership which he declared would be a development "entirely against the public interest." Here came a brief discussion of the evils of government ownership as Mr. Bohman led up to his appeal to business men to do their part "by filing a protest with your Congressmen and Senators at once."

"Comet" Providing Excursions

The "Comet," the new streamlined train of the New York, New Haven & Hartford (described in the *Railway Age* of April 27) completed on May 25 a tour of 82 places on the lines of the New Haven road and, in the 27 days occupied by the trip, 345,000 persons passed through the cars. At New York, 25,130 people made the inspection and at Boston, 20,289.

Prior to beginning regular trips between Boston and Providence on June 5, the company ran a number of short excursions, at rates of about one cent a mile, to enable the people of southern New England not only to see the train but to experience the pleasure of riding in it.

On Wednesday, May 29, the time-table called for a trip from Fall River, Mass., to Canton Junction, 35 miles and return; and, in the afternoon, one from New Bedford to Boston, 57 miles and return.

On Memorial Day, May 30, a trip from Newport, R. I., to Boston, 70 miles, in the forenoon, returning at 6 p.m. In the interval a trip was made from Quincy, Mass., to Buzzard's Bay, 47 miles and return, and another from Braintree to Buzzard's Bay, 45 miles, and return.

On Friday forenoon, the run was from Hartford, Conn., to New Haven, 36 miles and return, twice. On Friday afternoon, it was from New Haven to Saybrook, 43 miles and return, and the trip was then repeated, all being done between 3 p.m. and 5:34 p.m.

On Saturday, June 1, the run was from Waterbury, Conn., to Hartford, 31 miles and return, twice, the last trip ending at

11:20 a.m.; and in the afternoon, three round trips were made between Springfield, Mass., and Hartford, 26 miles, ending at 5:20 p.m.

Sunday, June 2, the timetable called for a run from Hartford, Conn., to Boston, 117 miles and return, leaving Hartford at 8 a.m. and returning at 7 p.m.; round-trip fare, $2.50.

These excursions in the aggregate carried about 2000 passengers.

The permanent time table now calls for five trips each way, between Boston and Providence daily, except Sunday, all except the 10 p. m. westbound being scheduled through in 44 minutes. Following is the style of the schedules:

Miles		
	Boston	8.30.00
1.28	Back Bay	8.33.00
5.15	Forest Hills	8.36.30
10.43	Readville Transfer	8.41.05
14.97	Canton Junction	8.45.01
19.46	Sharon Heights	8.49.01
24.90	Mansfield	8.53.41
31.90	Attleboro	8.59.41
38.88	Boston Switch	9.05.41
43.78	Providence	9.14.00

The 10 p.m. westbound makes several stops but the other runs stop only at Back Bay.

Transportation Association of America

At a meeting of the directors of the Transportation Association of America on May 23 at Chicago, additional officers were elected as follows: Vice-presidents, Sidney Anderson, vice-president of General Mills, Minneapolis, Minn.; George R. Carr, chairman of the Locomotive Firebox Company and vice-president of the Dearborn Chemical Company, Chicago; Alvin C. Carpenter, vice-president of the Bemis Brothers Bag Company, St. Louis, Mo.; and Walter Bockstahler, New York. Messrs. Bockstahler and J. E. Bellinger will devote all of their time to affairs of the association. Mr. Bellinger was also elected secretary and assistant treasurer, while W. D. Stohlman was elected executive assistant at St. Louis. The new directors elected include Harry G. Taylor, chairman of the Western Association of Railway Executives, Chicago; J. J. Pelley, president of the Association of American Railroads, Washington, D. C.; D. S. Adams, president of the American Warehousemen's Association, merchandise division, Kansas City, Mo.; A. J. Davis, of A. J. Davis & Co., St. Louis, Mo.; E. J. Fleming, president of the Fleming Coal Company, Chicago; Travis J. Fleisher, president of the Cain Hurley Lumber Company, St. Louis; R. C. Hobbs, president of the Hobbs-Western Company, St. Louis; George B. Logan, general counsel of the National Association of State Aviation Officials, St. Louis; James Lee Loomis, president of the Connecticut Mutual Life Insurance Company, Hartford, Conn.; L. C. Newlands, vice-president of the Oregon Portland Cement Company, Portland, Ore.; A. A. D. Rahn, vice-president of the Shevlin, Carpenter & Clarke Company, Minneapolis, Minn.; John S. Swift, president of the John S. Swift Company, St. Louis, and George E. Scott, president of American Steel Foundries, Chicago. These elections and appointments are in addition to the original officers elected April 16.

According to a statement of policy and objects of the association adopted at the meeting on May 23, the Transportation Association of America is a non-political organization dedicated to research and public education on every important phase of the transport problem and its relation to marketing and distribution. It is the purpose of the association to establish a forum of public education on all of the important economic phases of transportation, to facilitate intensive research and analysis, to appraise the conflicting interests which now exist, to attempt to reach sound conclusions and constructive proposals which will permit continued private ownership and competitive operation of transportation, and to use its efforts to crystallize public opinion in support of such objectives.

The activities of the association will be directed by individuals chosen from agriculture, industry, transportation and the public generally. It will attempt to make practical suggestions for the proper use of all transportation facilities in a well-balanced yet competitive national system of marketing and distribution. It will use its efforts to educate and acquaint the public with its conclusions. As the association expands its membership, state and regional offices of the organization will be established, with appropriate advisory boards in each state.

The association is incorporated under the laws of the state of Delaware as a corporation, not for profit, and without liability to its membership. The Corporation Trust Company acts as its resident agent. Its revenue will be derived from membership subscriptions which are divided into three classes: Individual, being available to anyone at dues of $1 a year; associate, being available to anyone at dues from $2.50 to $50 a year, depending upon the ability and willingness of associate members to contribute; and sustaining, being extended on invitation or election by the board of directors at annual dues from $50 to $1,500 per annum, depending upon the relative size and importance of the industry in its particular field.

Supply Trade

The Edgcomb Steel Company, Philadelphia, Pa., has been appointed agent of **The Timken Steel & Tube Company,** Canton, Ohio.

Eugene Brandeis, formerly president of the Lundie Engineering Corporation, New York, has opened an office at 230 Park avenue, New York, to represent manufacturers of railroad supplies.

The Republic Steel Corporation, Youngstown, Ohio, has moved its district sales office at Buffalo, N. Y., from 475 Abbott road to 1020 Liberty Bank building. **Thomas B. Davies** continues in charge of the office as district sales manager, assisted by his present staff.

Construction

BALTIMORE & OHIO.—A low bid of $112,842 was submitted by Frank L. Cohen, Buffalo, N. Y., on contract for grading, masonry, etc., in connection with the Mumford, N. Y., grade crossing elimination. See *Railway Age,* May 18, page 782.

DELAWARE, LACKAWANNA & WESTERN.—A hearing will be held by the New York Public Service Commission on June 13 at Albany, N. Y., to consider a petition of the village of Johnson City, N. Y., to include two additional crossings in the 1935 elimination program. The crossings are the Willow street and the Baldwin street crossings of the Lackawanna in Johnson City. The estimated cost of this work is $550,000.

NEW YORK CENTRAL.—A low bid of $451,964 submitted by William M. Ballard, Inc., Syracuse, N. Y., for the construction of a passenger station, baggage elevator enclosures, stair enclosures and doors in passenger stairway to be built in connection with the elimination of this road's grade crossings in Syracuse, N. Y., has been approved as not excessive by the New York Public Service Commission. See *Railway Age,* May 25, page 835.

SOUTHERN PACIFIC LINES IN TEXAS & LOUISIANA.—A contract has been awarded to the Wm. A. Smith Construction Company, Houston, Tex., for all ballasting and track-laying work in connection with the construction of a new terminal at Avondale, La., which is being built by this railroad incident to the construction of the new combined railway and highway bridge across the Mississippi river at New Orleans, La., work on which is now nearing completion. A contract for the construction of a new enginehouse and other facilities at Avondale has been awarded to the Pittman Bros. Construction Company, New Orleans.

Another contract has been awarded to the Pittman Bros. Construction Company for the work of removing portions of warehouse No. 3 and the Poydras freight station of the Southern Pacific at New Orleans. The contract also includes the construction of a wall to enclose the remaining portion of these buildings.

STATEN ISLAND RAPID TRANSIT RAILWAY COMPANY.—This company, a subsidiary of the Baltimore & Ohio, has received bids on contract for grading, masonry, etc., in connection with the Port Richmond-Tower Hill, Staten Island, N. Y., elimination work. The lowest bid was submitted by the P. T. Cox Contracting Co., Inc., New York, who offered to do the work for $947,061. See *Railway Age,* May 11, page 754.

ST. LOUIS-KANSAS CITY SHORT LINE.—Examiner C. P. Howard, of the Interstate Commerce Commission, has recommended in a proposed report that the commission find that public convenience and necessity have not been shown to require the construction and operation of the proposed electric railway from St. Louis to Kansas City, Mo., 236.2 miles. A certificate for such a line was denied by the Missouri

Public Service Commission in 1925, but the application was filed with the federal commission in 1933 with the idea that a loan of $35,000,000 might be obtained from the Reconstruction Finance Corporation. "The record fails to show that there is a substantial need for another railroad in the territory," the report says, "and it has not been shown that the applicant has any funds available for construction or other purposes."

Equipment and Supplies

LOCOMOTIVES

THE CHESAPEAKE & OHIO is inquiring for five passenger locomotives of the 4-8-4 type with 25,000-gal. tenders.

FREIGHT CARS

THE CHICAGO, ROCK ISLAND & PACIFIC is asking for prices for the conversion of 320 wooden box cars to stock cars.

THE CHESAPEAKE & OHIO is inquiring for bids on June 17 for 5,000 hopper cars of 50 tons' capacity, 50 stock cars of 40 tons' and 75 flat cars of 50 tons' capacity.

AIR CONDITIONING

THE DELAWARE & HUDSON is installing in a parlor cafe car air conditioning equipment furnished by the Rails Company.

THE NEW YORK CENTRAL has placed a contract with Airtemp, Inc., New York, distributors for air-conditioning products of Chrysler Motors, to install Airtemp units which will provide for heating in winter as well as cooling during the summer in 11 of its dining cars.

THE PENNSYLVANIA has placed a contract with Airtemp, Inc., New York, distributors for air-conditioning products of Chrysler Motors, to install Airtemp units which will provide for heating in winter as well as cooling during the summer in four of its dining cars.

MISCELLANEOUS

THE CHICAGO, BURLINGTON & QUINCY has placed an order with the American Steel Foundries for roller bearing units for tenders of three fast freight locomotives which have been equipped with large diameter driving wheel centers and new valve motion necessary for higher speeds.

THE WHEELING & LAKE ERIE has placed an order with The Timken Roller Bearing Company, Canton, Ohio, for bearings and boxes to completely equip all driving axles of two new, class 0-6-0, switching locomotives. This road also placed an order with The Timken Company for inboard type trucks for use under the tenders of these two locomotives, which are to be built by the railroad in its Brewster, Ohio, shops.

Financial

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—Examiner Thomas F. Sullivan, of the Interstate Commerce Commission, has recommended in a proposed report that the commission authorize the abandonment of the branch line from Havana, Kan., to Cedar Vale, 38.73 miles.

ATCHISON, TOPEKA & SANTA FE.—*Abandonment.*—The Interstate Commerce Commission has authorized this company and subsidiaries to abandon a line extending from Dillon, N. M., easterly to Des Moines, 44.9 miles, and another line from Carisbrooke to Yankee, 3 miles.

BOSTON & MAINE.—*R. C. C. Loan.*—The Interstate Commerce Commission has authorized this company to issue to the Railroad Credit Corporation notes totaling $507,664 in renewal of the unpaid portion of a note which matured May 28, and to pledge as collateral security $1,000,000 of its first mortgage 6 per cent bonds, series LL.

CHICAGO & NORTH WESTERN.—*Seeking Deferred Interest Plan.*—The directors of this company met on June 4 to discuss plans for the temporary deferment of a portion of the road's interest charges. The Finance Committee has been authorized to draw up a tentative plan of readjustment to be considered by the full board later. It is hoped and believed, since the company's bonds are closely held, that a voluntary plan of readjustment can be agreed to without the necessity for trusteeship.

Securities.—The Commission has authorized this company to issue a note to the Railroad Credit Corporation for $500,000 in renewal of a note which matured on May 26, and to pledge as collateral security $7,021,000 of various bonds and the company's equity in securities totaling $95,560,000 now pledged with the Reconstruction Finance Corporation.

CHICAGO, MILWAUKEE, ST. PAUL & PACIFIC.—*Security Owners Object to Reorganization Plan.*—Institutional holders of this company's bonds, it is reported, have objected to the reorganization plan of this company, whereby no assessment of stockholders is called for.

CHICAGO, ST. PAUL, MINNEAPOLIS & OMAHA.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon a line extending from Stillwater Junction, Minn., to a point known as Stillwater Switch, 2.3 miles.

THE DALLES & SOUTHERN.—*R. F. C. Loan Denied.*—The Interstate Commerce Commission has denied approval of a loan of $100,000 by the Reconstruction Finance Corporation to this company.

GRAND TRUNK WESTERN.—*Control of Car Ferry.*—This company has applied to the Interstate Commerce Commission for an order, if the commission regards it necessary under the law, to continue its control of the Grand Trunk Milwaukee Car Ferry Company.

LEHIGH VALLEY.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of a branch line extending from a point east of Spencer, N. Y., northerly to a point east of Ithaca—a total of 22 miles.

MISSOURI & ARKANSAS.—*Acquisition.*—This company has applied to the Interstate Commerce Commission for authority to acquire and operate the property of the Missouri & North Arkansas, 364 miles, which has been in receivership.

NASHVILLE, CHATTANOOGA & ST. LOUIS.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its Lebanon branch extending from Harsh Switch, Tenn., to Lebanon, 27 miles.

PERE MARQUETTE.—*Annual Report.*—The 1934 annual report of this company shows net deficit, after interest and other charges, of $612,126, as compared with net deficit of $1,599,471 in 1933. Selected items from the income statement follow:

	1934	1933	Increase or Decrease
Average Mileage Operated	2,145.30	2,296.43	−151.13
Railway Operating Revenues	$24,597,189	$21,947,295	+$2,649,894
Maintenance of way	2,909,362	2,704,842	+204,519
Maintenance of equipment	5,368,256	5,025,936	+342,319
Transportation	9,347,758	8,387,748	+960,009
Total Operating Expenses	19,425,959	17,892,719	+1,533,240
Operating ratio	78.98	81.53	−2.55
Net Revenue from Operations	5,171,229	4,054,575	+1,116,654
Railway tax-accruals	1,172,166	1,071,231	+100,935
Railway operating income	3,992,732	2,969,730	+1,023,002
Equipment rents—Net	849,429	677,615	−171,813
Joint facility rents—Net	524,935	567,658	+42,723
Net Railway Operating Income	2,618,368	1,724,455	+893,912
Gross Income	3,038,858	2,166,153	+872,704
Rent for leased roads	86,321	97,036	−10,714
Interest on funded debt	3,465,057	3,574,061	−109,004
Total Deductions from Gross Income	3,650,985	3,765,624	−114,639
Net Income (Deficit)	$612,126	$1,599,471	+$987,344

QUANAH, ACME & PACIFIC.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon its branch line from Matador Junction, Tex., to Matador, 8.08 miles.

ST. LOUIS SOUTHWESTERN.—*R. F. C. Loan.*—The Interstate Commerce Commission has authorized the extension for two years of the time of payment of loans of $17,882,250 by the Reconstruction Finance Corporation to this company, which loans matured June 1. The Southern Pacific has assumed liability as guarantor for these notes. The Commission has authorized the company to issue $4,500,000 of promissory notes in renewal or extension of matured notes, held by banks, and to pledge as col-

lateral security $6,327,000 of its general and refunding mortgage 5 per cent series A bonds and $126,000 of Southern Illinois & Missouri Bridge 4 per cent first mortgage bonds.

SHEARWOOD.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon that part of its line from Claxton, Ga., to a point near Nevils, 12.3 miles.

SOUTHERN.—*Abandonment.*—This company has applied to the Interstate Commerce Commission for authority to abandon the branch line from Sumter Junction, N. C., to a connection with the Kingville-Marion line, 15.8 miles.

VENTURA COUNTY.—*Abandonment.*—The Interstate Commerce Commission has authorized this company to abandon two miles of line in Ventura County, Calif.

WESTERN PACIFIC.—*Financing Plan.*—The Western Pacific, in a letter to first mortgage bondholders on May 30, stated that holders will be requested to consent to a reclassification of the debt, under which a certain percentage will be in new fixed interest bonds with a four per cent coupon on which interest will currently be paid, and the balance in adjustment income bonds. It is also stated that the company hopes to obtain $8,000,000 in new money from the Reconstruction Finance Corporation and extension of its loan of $2,963,000 already received from that agency. The new advance would be secured by first mortgage four per cent bonds on a parity with those to be received by the holders of the present first five's of 1946.

WHEELING & LAKE ERIE.—*Bonds.*—This company has applied to the Interstate Commerce Commission for authority to convert $8,130,000 of refunding mortgage bonds, Series B, into bonds of Series D, reducing the interstate rate from 5 to 4 per cent, and to sell the new bonds or exchange them for outstanding bonds.

WHEELING & LAKE ERIE.—*New Director.*—J. Crawford Biggs has been elected a director of this company, representing Jesse Jones, chairman of the Reconstruction Finance Corporation, which holds a large block of W. & L. E. stock, deposited with it as collateral for loans to the New York, Chicago & St. Louis.

Average Prices of Stocks and of Bonds

	June 4	Last week	Last year
Average price of 20 representative railway stocks..	32.39	32.42	42.34
Average price of 20 representative railway bonds..	73.56	73.58	78.04

Dividends Declared

Atchison, Topeka & Santa Fe.—Preferred, $2.50, semi-annually, payable August 1 to holders of record June 28.

Beech Creek.—50c, quarterly, payable July 1 to holders of record June 14.

Lackawanna Railroad of New Jersey.—4 Per Cent Guaranteed, $1, quarterly, payable July 1 to holders of record June 7.

New York, Lackawanna & Western.—$1.25, quarterly, payable July 1 to holders of record June 14.

New York & Harlem.—$2.50, semi-annually; Preferred, $2.50, semi-annually, both payable July 1 to holders of record June 14.

Sussex.—50c, semi-annually, payable July 1 to holders of record June 14.

Railway Officers

EXECUTIVE

Willard F. Place, executive assistant to the president of the New York Central, with headquarters at New York, has been appointed vice-president, with the same headquarters.

W. K. Weaver, superintendent of organization reporting to the president, and chairman of the Standard Practices Committee, Railway Express Agency, has been appointed executive assistant, with headquarters at New York. Mr. Weaver succeeds the late **A. V. Julier.**

J. H. Friend, executive vice-president of the Atlanta & St. Andrews Bay, with headquarters at Panama City, Fla., has been elected first vice-president. **J. A. Streyer,** general manager at Panama City, has been elected second vice-president. **E. A. Roberts** has been elected third vice-president, with headquarters at Panama City.

OPERATING

C. E. McCarty, inspector of transportation of the Kansas City Southern, has been appointed superintendent of terminals, with headquarters as before at Kansas City, Mo., succeeding **R. E. Malone,** deceased.

A. L. Smith, superintendent of the Toronto Terminals Railway Company, has retired after 55 years of service with Canadian railways, and the position of chief engineer has been abolished. **J. R. W. Ambrose** has been appointed superintendent in charge of maintenance and operation.

A. A. Iams, superintendent of the Toledo division of the Baltimore & Ohio at Dayton, Ohio, has been appointed general superintendent of Western lines, with headquarters at Cincinnati. This appointment restores the position of general superintendent which was temporarily suspended in 1932. **H. C. Batchelder,** superintendent of the Cincinnati Terminal division, has been transferred to Dayton, succeeding Mr. Iams. **T. C. Smith,** terminal trainmaster, with headquarters at Willard, Ohio, has been appointed superintendent of the Cincinnati Terminal division to succeed Mr. Batchelder.

TRAFFIC

The Richmond (Va.) traffic office of the Virginian is now located in room 602, American Bank and Trust building.

Cornelius R. Rierdan has been appointed assistant general freight agent on the Chicago, St. Paul, Minneapolis & Omaha, with headquarters at St. Paul, Minn.

Gus Richmond has been appointed general freight agent (rates and divisions) of the Atlanta, Birmingham & Coast, with headquarters at Atlanta, Ga. **H. S. Young,** assistant general freight agent at Atlanta, Ga., has been appointed general freight agent (solicitation and development) with the same headquarters.

M. D. Riggs has been appointed to the newly-created position of assistant general passenger agent on the St. Louis-San Francisco, with headquarters at St. Louis, Mo. Mr. Riggs was formerly connected with the traffic department of the Frisco, and more recently has been associated with the investment firm of Halsey, Stuart & Co.

Roy Pope, general freight agent for the Atlanta, Birmingham & Coast, with headquarters at Atlanta, Ga., has resigned to accept a position elsewhere. Mr. Pope was born on March 18, 1888, at Hooker, Ga., and entered railway service in 1906 as a stenographer in the office of the general yardmaster of the Nashville, Chattanooga & St. Louis, at Chattanooga, Tenn. In the latter part of the same year he accepted a position as stenographer in the office of the master mechanic of the Queen & Crescent route (now part of the Southern) at Chattanooga. In November, 1907, he became secretary to the general freight agent of the Cincinnati, New Orleans & Texas Pacific (which was then a part of the Queen & Crescent route and is now part of the Southern also) at Cincinnati, Ohio, later entering the rate department. In May, 1916, Mr. Pope entered the service of the Atlanta, Birmingham & Atlantic (which is now the Atlanta, Birmingham & Coast) as executive rate clerk in the general freight office of that road at Atlanta, Ga., and was subsequently advanced to the positions of chief rate clerk and chief clerk, and in June, 1920, was appointed assistant general freight agent. Mr. Pope was appointed general freight agent in January, 1928.

C. S. Edmonds, assistant general freight agent of the Fort Worth & Denver City and the Wichita Valley, who has been appointed general freight agent of these companies, with headquarters as before at Fort Worth, Tex., as announced

C. S. Edmonds

in the *Railway Age* of May 25, was born on January 13, 1889, in Palo Pinto county, Texas. Mr. Edmonds first entered rail-

Continued on next left-hand page

LOCOMOTIVE HORSEPOWER

Whether for light limited service, heavy through line passenger service, or heavy fast freight service, the flexibility of the steam locomotive economically provides the horsepower capacity for any load or any speed desired.

Such power is low in first cost, economical to operate and economical to maintain.

LIMA OHIO

LIMA LOCOMOTIVE WORKS INCORPORATED

way service on January 1, 1907, and served in various capacities in the transportation departments of the Texas & New Orleans (now part of the Southern Pacific), the Fort Smith & Western, the Chicago, Rock Island & Pacific and the Missouri-Kansas-Texas until 1913. On July 24 of that year Mr. Edmonds entered the service of the Midland Valley as chief revising and rate clerk in the accounting department at Muskogee, Okla. Early in 1916 he was promoted to chief rate clerk and in the following year he was further advanced to chief clerk in the traffic department. On March 1, 1920, Mr. Edmonds was appointed assistant general freight and passenger agent and on June 1 of the same year he was further promoted to general freight and passenger agent. On May 1, 1926, he was appointed also to the same position on the Kansas, Oklahoma & Gulf, continuing in these capacities until January 1, 1927, when he was appointed to the newly-created position of traffic manager of both lines. Mr. Edmonds resigned this position on April 1, 1928, to become traffic manager of the Oklahoma Railway, leaving this position on January 16, 1929, to go with the Fort Worth & Denver City and the Wichita Valley as assistant general freight agent at Fort Worth.

MECHANICAL

A. Peers, assistant superintendent motive power and car department of the Canadian Pacific, with headquarters at Montreal, Que., has been appointed master mechanic, with the same headquarters, succeeding **C. A. Wheeler,** transferred.

Charles J. Wolfe, master mechanic of the Western Maryland, with headquarters at Hagerstown, Md., has been appointed superintendent of motive power, with the same headquarters. Mr. Wolfe was born on August 6, 1893, at Cumberland, Md., and attended the public schools of that city. He entered railway service with the Western Maryland as messenger at Ridge-

Charles J. Wolfe

ley, W. Va., in June, 1905. In August, 1911, he completed apprenticeship as a machinist at the Elkins, W. Va., shops. He was transferred to the transportation department and served as a fireman and trainman until October, 1913. Mr. Wolfe was transferred to the Maryland Junction shops, Ridgeley, W. Va., and served as a leading machinist until March, 1920, when he was appointed general foreman at Bowest, Pa.; in May, 1920, he was transferred to Baltimore, Md., as general foreman in charge of terminals. In January, 1922, he was promoted to master mechanic at Baltimore, in charge of the Baltimore terminals. Mr. Wolfe was transferred to Hagerstown, Md., in November, 1934, as division master mechanic, which position he held until his recent appointment as superintendent of motive power.

SPECIAL

J. T. Williamson, who has been a member of the Railroad Retirement Board, which was appointed to administer the federal railroad pension law, has resumed his former position as superintendent of relief and employment of the Chicago, Burlington & Quincy and chairman of its pension board, with headquarters at Chicago. **K. W. Fischer,** who has held these positions during Mr. Williamson's absence, has been appointed land and tax commissioner.

OBITUARY

Charles A. Wilson, who was consulting engineer on the planning and construction of the Cincinnati Union Terminal, died of a heart attack on June 3, at his home at Cincinnati, Ohio. Mr. Wilson was born at Conowingo, Md., and first entered railway service in 1880, at a resident engineer on the Ohio & West Virginia (now part of the Chesapeake & Ohio), then going with the Wheeling & Lake Erie two years later as principal assistant engineer. In 1883, Mr. Wilson was appointed chief engineer of the W. & L. E., and of the Cleveland & Marietta (now part of the Pennsylvania), being transferred to the operating department of the W. & L. E. ten years later as general superintendent. From 1896 to 1904, he served as chief engineer and assistant to the president of the Cincinnati, Hamilton & Dayton (now part of the Baltimore & Ohio), and from the latter year until 1909 he served as chief engineer. For a number of years Mr. Wilson served as a special consulting engineer for the Erie and the Chesapeake & Ohio, and in 1916, he was engaged as a special consulting engineer by the B. & O., the Cleveland, Cincinnati, Chicago & St. Louis, the Pennsylvania, the Norfolk & Western, the C. & O., the Louisville & Nashville and the Southern, to make a study and prepare estimates for the necessary changes to improve the freight and passenger facilities of these railroads at Cincinnati. Mr. Wilson's studies resulted in the preparation of plans which were accepted for the construction of the Cincinnati Union Terminal and during the period of construction, which commenced in 1926, he continued to act as consulting engineer. He was a charter member of the American Railway Engineering Association.

William H. Truesdale, former president of the Delaware, Lackawanna & Western, died at his home in Greenwich, Conn., on June 2 of bronchial pneumonia. Mr. Truesdale was in his 84th year; he was born on December 1, 1851, at Poland, Ohio, and was educated in the common schools at Rock Island, Ill. In 1869 he entered the service of the Rockford, Rock Island & St. Louis (now part of the Chicago, Burlington & Quincy) as a clerk in the auditing department. Later he served as cashier, and still later as purchasing agent for the same road. In 1872 and 1873 he was in Frankfort, Germany, as transfer agent for the company, and in the following year returned again to Rock Island as purchasing agent. In 1874 he became

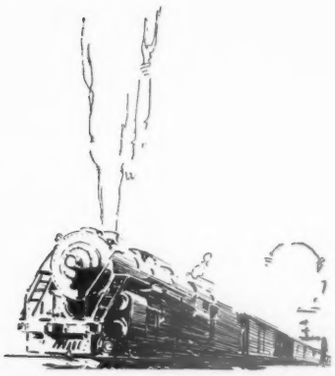
W. H. Truesdale

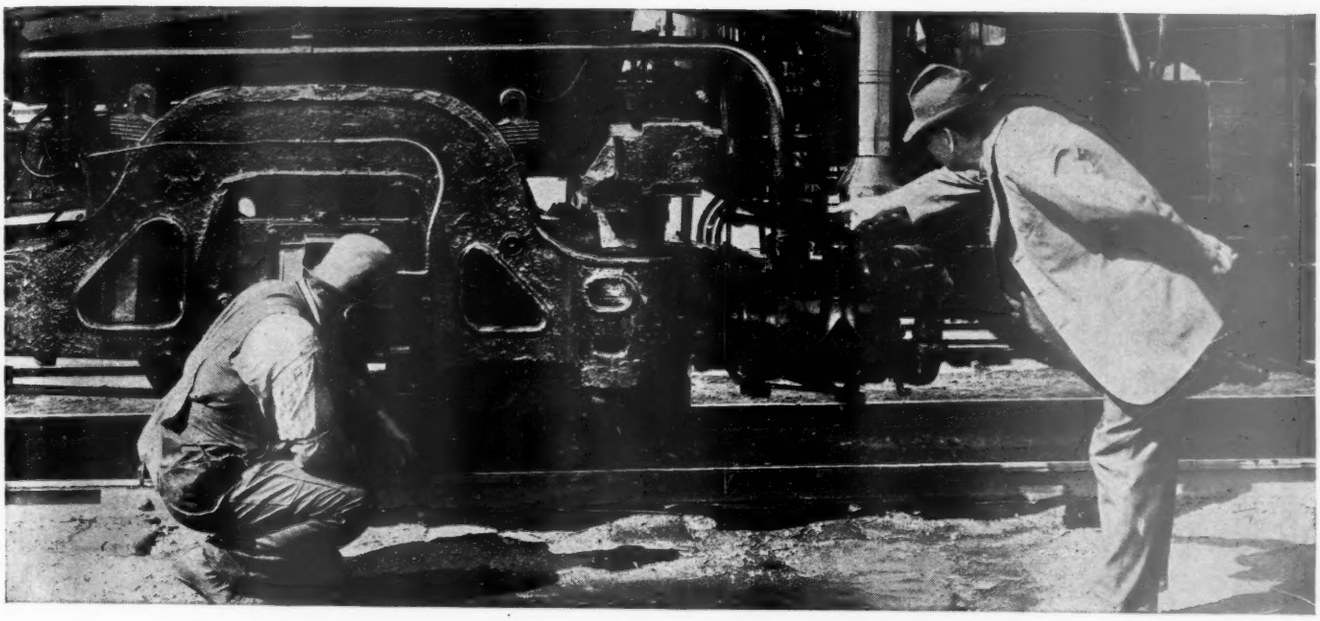
connected with the firm of Osborn & Curtis, railroad attorneys, at Rock Island. In 1876 he was appointed assistant to the receiver and treasurer to the Logansport, Crawfordsville & Southwestern (now a part of the Pennsylvania) at Terre Haute, Ind. Three years later he became general freight agent for the same road, and in 1881 was appointed assistant traffic manager of the Chicago, St. Paul, Minneapolis & Omaha. He became assistant to the president of the Minneapolis & St. Louis in January, 1883, and in May of the same year was elected a vice-president. In 1887 Mr. Truesdale was advanced to the presidency of the Minneapolis & St. Louis, and the following year was appointed receiver. In 1894 he went to the Chicago, Rock Island & Pacific as third vice-president and general manager. In 1887 he became second vice-president and general manager, and, in 1898, first vice-president and general manager. On March 1, 1899, he was elected president of the Delaware, Lackawanna & Western, with headquarters at New York, and upon his retirement from that position in June, 1925, he was elected chairman of the board of managers of the Lackawanna. In November, 1931, Mr. Truesdale retired as chairman of the board of managers after more than thirty years' service as a Lackawanna executive.

THE BUREAU OF RAILWAY NEWS AND STATISTICS, Chicago, was closed permanently on May 31, following the retirement of Slason Thompson, who has conducted the bureau for the past 20 years. The publication of Railway Statistics of the United States of America was discontinued with the issue for 1933.

Tables of Revenues and Expenses of Railways begin on next left-hand page

CAPITALIZE
IDLE WEIGHT AND SPARE STEAM





Trailer wheels and the load they carry are necessary in efficient modern motive power.

But instead of so much excess weight they are changed into productive weight by application of The Locomotive Booster.

The Locomotive Booster relieves the cylinders and drivers of providing the extra tractive effort and adhesive weight needed for starting and for the hard spots. The Booster provides it.

This permits use of smaller cylinders and lower driving wheel weights without any loss of ton-mile-capacity.

It permits utilization of smaller power with a corresponding reduction in maintenance costs.

The close tolerances essential to efficient Booster operation call for genuine repair parts made by Franklin.

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK CHICAGO MONTREAL

Revenues and Expenses of Railways

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1935

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Akron, Canton & Youngstown	April	171	$149,939	$32	$160,276	$21,395	$20,791	$8,326	$56,800	$8,599	$115,911	72.3	$44,365	$37,452	$22,472	$31,344
	4 mos.	171	651,065	121	686,260	66,524	72,027	33,057	222,087	42,008	435,703	63.5	250,557	216,577	153,763	147,183
Alton	April	949	781,699	123,605	1,069,419	146,371	193,064	45,899	455,340	43,206	899,320	84.1	170,099	99,581	—54,105	—64,546
	4 mos.	949	3,044,065	530,185	4,206,597	513,457	693,963	170,988	1,771,279	195,481	3,404,747	80.9	801,850	519,812	—36,629	—49,141
Atchison, Topeka & Santa Fe System	April	13,308	8,949,372	895,674	10,862,183	1,356,037	2,684,868	426,122	4,039,039	656,736	9,181,778	84.5	1,680,405	813,741	819,555	726,741
	4 mos.	13,311	32,548,440	3,870,146	40,138,664	5,206,063	10,440,248	1,562,966	15,382,849	2,567,314	35,224,080	87.8	4,914,584	1,437,033	1,186,486	2,172,931
Atlanta & West Point	April	93	90,737	18,328	131,310	20,900	26,528	7,657	52,904	7,078	117,978	89.8	13,332	6,816	—2,288	—7,520
	4 mos.	93	330,884	76,678	488,297	72,284	97,519	28,102	207,357	26,893	442,449	98.7	45,848	17,416	—26,876	—22,287
Western of Alabama	April	133	77,951	17,413	112,716	22,888	30,358	7,144	48,205	6,308	117,325	104.1	—4,609	—12,704	—7,468	—11,024
	4 mos.	133	290,671	76,475	428,679	83,163	119,502	27,042	187,848	23,777	450,067	105.0	—21,388	—53,769	—39,002	—9,615
Atlanta, Birmingham & Coast	April	639	221,577	6,773	260,260	39,850	45,395	22,897	101,209	15,054	235,020	90.3	25,240	12,201	—9,615	—22,939
	4 mos.	639	855,362	25,574	1,001,433	159,536	181,249	86,139	399,388	78,394	947,000	94.6	54,433	2,114	—66,711	—74,214
Atlantic Coast Line	April	5,147	2,852,169	597,118	3,936,095	456,013	672,303	121,715	1,475,114	130,177	2,896,928	73.6	1,039,167	538,880	347,777	505,875
	4 mos.	5,147	10,582,247	3,003,474	15,570,329	1,716,400	2,732,519	495,219	5,729,492	536,253	11,429,471	73.4	4,140,858	2,237,703	1,745,986	3,125,655
Charleston & Western Carolina	April	342	192,595	2,010	199,750	24,396	28,660	7,212	60,825	5,670	126,763	63.5	72,987	54,964	52,369	57,444
	4 mos.	342	699,092	6,033	724,555	101,548	106,917	24,355	237,612	19,219	489,651	67.6	234,904	166,890	162,502	206,790
Baltimore & Ohio	April	6,440	9,175,603	790,538	10,755,777	931,517	2,605,716	393,196	4,085,901	581,707	8,710,485	81.0	2,045,292	1,412,313	988,363	1,155,911
	4 mos.	6,440	39,132,662	2,996,166	45,024,207	3,352,932	9,692,834	1,442,188	16,489,246	2,263,361	33,636,650	74.7	11,387,557	8,761,635	7,316,846	6,316,840
Staten Island Rapid Transit	April	23	42,809	73,457	124,244	12,605	13,807	1,664	83,670	12,853	124,599	100.3	—355	—16,955	—43,859	—2,720
	4 mos.	23	169,299	289,293	488,445	50,368	57,027	7,249	337,391	51,561	503,596	103.1	—15,151	—81,559	—195,637	—27,268
Bangor & Aroostook	April	603	581,689	26,989	633,953	96,215	80,522	4,709	137,417	32,962	352,640	55.6	281,313	223,052	215,675	241,166
	4 mos.	603	2,634,877	144,456	2,873,511	403,376	346,723	19,520	642,234	127,875	1,542,842	53.7	1,330,669	1,085,373	1,009,565	877,348
Bessemer & Lake Erie	April	225	636,031	789	644,674	152,066	239,792	12,179	136,696	47,693	588,176	91.2	56,498	35,603	52,681	65,551
	4 mos.	225	1,999,048	3,311	2,040,946	299,657	1,017,905	46,632	524,989	183,038	2,071,922	101.5	—30,976	—114,723	—14,417	—251,730
Boston & Maine	April	2,038	2,719,829	493,987	3,713,278	416,436	542,212	65,369	1,494,605	180,623	2,707,764	72.9	1,005,514	799,398	631,830	370,950
	4 mos.	2,038	10,165,612	2,240,830	14,390,550	1,810,394	2,298,808	248,651	6,117,048	688,734	11,211,925	77.9	3,178,625	2,404,813	1,680,104	1,638,438
Brooklyn Eastern District Terminal	April	....	85,856	.....	87,647	3,852	11,962	136	24,935	5,027	45,912	52.4	41,735	34,909	34,909	29,378
	4 mos.	....	315,970	.....	325,034	15,488	34,036	938	100,250	24,913	175,625	54.0	149,409	122,425	122,425	106,799
Burlington-Rock Island	April	280	65,518	3,406	73,929	14,974	18,662	4,586	40,015	1,735	79,972	108.2	—6,043	—12,671	—21,674	—14,978
	4 mos.	280	235,530	13,226	267,093	52,606	55,264	16,844	160,594	29,372	314,680	117.8	—47,587	—74,247	—109,298	—69,916
Cambria & Indiana	April	37	58,999	.....	59,178	7,128	41,016	367	9,487	5,586	63,584	107.45	—4,406	—14,327	40,961	48,817
	4 mos.	37	369,522	.....	370,140	22,565	156,234	1,426	47,180	24,210	251,615	67.98	118,525	54,122	334,655	334,776
Canadian Pacific Lines in Maine	April	233	163,813	14,918	194,957	26,035	37,752	8,863	66,123	6,149	145,710	74.7	49,247	43,247	22,542	17,570
	4 mos.	233	730,547	59,876	844,472	109,615	174,194	36,850	311,661	24,828	660,158	78.2	184,314	160,304	69,094	143,669
Canadian Pacific Lines in Vermont	April	85	69,127	7,499	88,973	12,720	22,174	3,940	53,920	5,252	98,278	110.4	—9,305	—14,306	—30,936	—30,798
	4 mos.	85	219,546	36,319	305,188	42,132	84,504	16,450	228,599	21,011	393,874	129.0	—88,686	—108,687	—175,941	—157,597
Central of Georgia	April	1,926	987,917	97,255	1,233,586	160,593	258,235	54,765	511,454	73,638	1,065,000	86.3	168,586	96,035	58,354	44,560
	4 mos.	1,926	3,704,522	445,352	4,752,681	568,149	1,012,171	209,024	1,977,376	365,580	4,160,138	87.5	592,543	299,979	141,906	302,394
Central New Jersey	April	684	2,074,057	318,238	2,557,364	158,010	404,615	43,953	1,032,439	41,695	1,696,585	66.3	860,779	581,647	479,439	115,652
	4 mos.	685	7,691,918	1,284,935	9,587,566	629,595	1,835,226	166,754	4,128,390	420,764	7,243,035	75.6	2,344,531	1,458,824	955,996	1,849,419
Central Vermont	April	455	366,583	33,015	442,244	53,301	80,166	13,943	205,139	22,985	375,589	84.9	66,655	50,508	37,471	—11,359
	4 mos.	455	1,320,487	139,039	1,621,664	194,472	373,869	53,379	830,948	86,267	1,539,123	94.9	82,541	18,432	—27,792	—20,108
Chesapeake & Ohio	April	3,113	7,508,524	255,096	8,139,819	1,031,693	1,647,793	196,711	2,059,547	303,079	5,256,605	64.6	2,883,214	2,021,985	1,901,221	2,839,198
	4 mos.	3,114	33,439,323	843,403	35,549,837	4,015,083	6,663,664	752,719	8,315,755	1,166,893	20,968,467	59.0	14,581,370	11,129,960	11,132,975	12,114,322
Chicago & Eastern Illinois	April	938	780,464	77,107	995,106	136,480	197,350	51,839	439,865	52,949	884,677	88.9	110,429	60,276	—48,867	—7,684
	4 mos.	938	3,607,320	323,337	4,458,232	502,748	737,637	205,600	1,776,620	220,009	3,468,001	77.8	990,231	739,845	264,632	42,398
Chicago & Illinois Midland	April	131	233,062	1,064	241,184	27,580	51,642	15,843	61,514	17,529	174,108	72.2	67,076	57,654	62,273	29,371
	4 mos.	131	1,101,331	4,325	1,131,244	122,167	233,932	67,729	288,733	81,880	794,660	70.2	336,578	290,755	299,426	224,807
Chicago & North Western	April	8,428	4,665,716	671,215	5,966,227	859,336	1,342,992	171,747	2,422,101	256,916	5,086,422	85.3	879,805	427,076	234,813	18,571
	4 mos.	8,428	17,299,243	2,656,973	22,466,763	2,390,843	5,016,560	630,976	9,598,582	1,365,841	19,131,809	85.2	3,334,954	1,345,714	414,375	1,183,247
Chicago, Burlington & Quincy	April	9,036	5,132,855	476,048	6,386,635	987,322	1,224,896	267,493	2,406,550	293,132	5,249,440	82.2	1,137,195	576,350	269,242	343,543
	4 mos.	9,036	19,799,840	1,867,175	24,466,963	2,640,490	5,106,922	838,222	9,630,200	1,505,963	19,962,208	81.6	4,504,755	2,327,221	1,150,293	3,404,304
Chicago Great Western	April	1,511	1,183,036	34,666	1,302,470	176,999	179,342	55,299	507,133	54,863	973,784	74.8	328,686	271,550	94,165	51,596
	4 mos.	1,511	4,186,158	160,142	4,701,462	707,687	763,068	216,812	2,027,676	269,659	3,982,116	84.7	719,347	493,151	—173,527	106,935
Chicago, Indianapolis & Louisville	April	647	491,888	46,644	617,732	58,089	151,314	27,277	278,613	38,400	561,866	91.0	55,866	32,048	—50,994	—98,090
	4 mos.	647	2,055,055	171,171	2,521,551	217,863	582,663	100,729	1,118,489	155,614	2,200,710	87.3	320,841	221,994	—146,617	—196,742

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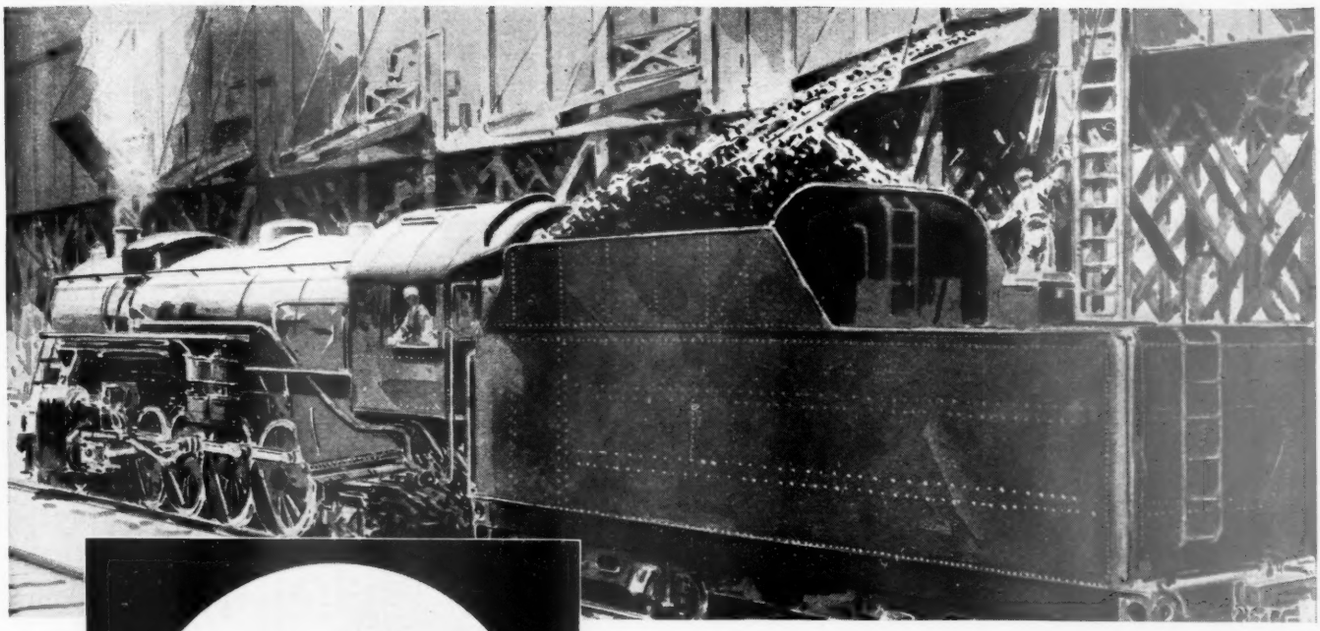

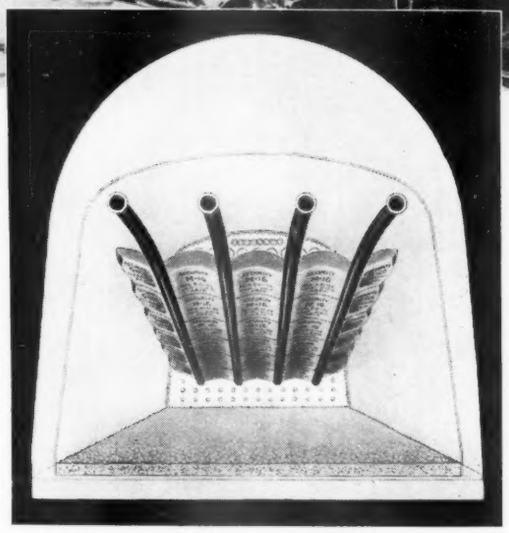

There's More to SECURITY ARCHES
Than Just Brick

SECURITY ARCH ECONOMY INCREASED AS LOCOMOTIVE EFFECTIVENESS INCREASED

Along with increased locomotive effectiveness came correspondingly increased severity of service.

Longer runs, increased mileage between shoppings, increased hauling capacity, higher firebox temperatures, all added to the punishment the firebox and the brick arch must withstand.

Nevertheless, due to continuous development in design and improved quality of Security Brick the Security Arch costs less per 1,000 ton miles than it did when conditions were less severe.

The Security Arch today is one of the most effective and least expensive of all fuel economy devices.

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

NRA MEMBER U.S. WE DO OUR PART

AMERICAN ARCH CO.
INCORPORATED

Locomotive Combustion Specialists » » »

Revenues and Expenses of Railways

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Chicago, Milw., St. Paul & Pacific	April	11,126	$5,858,526	$385,734	$6,927,879	$838,703	$1,429,142	$217,800	$2,881,546	$276,066	$5,671,420	81.9	$1,256,459	$710,952	$326,142	$321,992
	4 mos.	11,135	22,898,999	1,510,457	27,116,086	2,957,069	5,716,357	822,023	11,542,225	1,510,034	22,686,612	83.7	4,429,474	2,250,738	629,061	1,872,661
Chicago, Rock Island & Pacific	April	7,574	4,249,404	446,515	5,253,517	564,145	1,128,478	194,704	2,324,706	Cr. 21,004	4,267,084	81.2	986,433	617,703	302,871	—132,176
	4 mos.	7,575	15,749,821	1,874,756	19,750,001	2,036,236	4,446,088	740,575	9,150,866	1,156,697	17,800,860	90.1	1,949,141	464,045	—709,342	231,520
Chicago, Rock Island & Gulf	April	722	272,161	22,901	302,667	39,396	35,795	15,480	120,896	3,126	217,780	72.0	84,887	66,935	—8,212	—51,491
	4 mos.	722	1,041,539	92,130	1,171,197	153,485	127,127	64,251	471,389	86,995	911,767	77.8	259,430	187,670	—69,685	—106,024
Chicago, St. Paul, Minn. & Omaha	April	1,654	921,646	117,467	1,129,204	160,000	178,416	31,615	566,221	64,218	1,013,539	89.8	115,665	41,249	—38,513	13,558
	4 mos.	1,654	3,605,273	486,694	4,425,857	491,213	630,894	120,299	2,375,118	320,866	3,982,426	90.0	443,411	146,135	—173,334	247,567
Clinchfield Railroad	April	309	440,782	4,124	451,093	36,997	115,813	17,904	92,577	12,707	275,998	61.2	175,095	137,095	150,550	187,038
	4 mos.	309	1,779,974	14,052	1,814,992	148,930	424,520	65,466	367,837	49,745	1,056,498	58.2	758,494	606,491	694,546	935,862
Colorado & Southern	April	1,019	389,867	19,219	452,906	60,792	107,781	12,482	198,071	32,572	412,535	91.1	40,371	—14,390	—23,655	—39,997
	4 mos.	1,019	1,466,764	80,799	1,724,218	258,144	390,345	48,723	747,551	158,508	1,607,753	93.2	116,465	—102,446	—153,956	—90,217
Fort Worth & Denver City	April	804	309,989	30,141	402,091	39,704	74,212	17,344	151,548	32,518	318,634	79.2	83,457	55,441	27,749	75,615
	4 mos.	804	1,197,539	117,895	1,548,521	138,506	301,777	64,160	616,366	148,663	1,280,021	82.7	268,500	153,026	41,699	310,279
Columbus & Greenville	April	167	62,789	5,258	73,338	14,989	11,591	4,193	30,758	9,238	70,769	96.5	2,569	—347	2,309	293
	4 mos.	167	229,417	22,389	272,535	61,367	50,119	14,255	125,607	37,768	289,108	106.1	—16,573	—28,683	—18,979	6,491
Delaware & Hudson	April	835	1,896,219	73,680	2,058,710	267,989	510,787	46,352	764,586	136,338	1,732,229	84.1	326,481	239,832	231,734	247,195
	4 mos.	835	7,069,853	333,822	7,723,734	1,066,593	2,070,192	188,095	3,054,690	689,640	7,095,017	91.9	628,717	278,150	348,114	1,058,715
Delaware, Lackawanna & Western	April	992	2,955,043	520,646	3,943,315	292,038	643,938	120,354	1,746,647	175,789	2,995,942	76.0	947,373	631,096	613,152	580,892
	4 mos.	992	11,183,758	2,096,897	14,928,235	1,054,224	2,932,699	443,273	6,966,414	662,090	12,122,436	81.2	2,805,799	1,472,153	1,443,336	1,765,846
Denver & Rio Grande Western	April	2,601	1,288,045	71,596	1,448,562	217,945	434,531	49,757	528,018	Cr. 9,339	1,225,811	84.6	222,751	72,194	39,968	29,113
	4 mos.	2,609	5,103,484	323,879	5,772,072	514,977	1,510,587	197,119	2,060,707	310,368	4,612,129	79.9	1,159,944	545,618	408,025	640,745
Denver & Salt Lake	April	232	105,755	3,734	117,975	14,657	30,121	1,812	33,990	9,790	84,838	71.9	33,137	19,136	63,646	3,418
	4 mos.	232	491,069	15,250	542,393	46,039	115,815	6,702	134,628	38,782	324,304	59.8	218,089	162,084	327,041	83,396
Detroit & Mackinac	April	242	44,275	2,142	52,122	8,582	10,313	900	21,097	5,761	46,650	89.5	5,472	11,875	9,414	3,257
	4 mos.	242	139,174	9,747	169,523	29,695	33,581	3,471	83,866	18,081	168,702	99.5	821	286	—8,421	—7,581
Detroit & Toledo Shore Line	April	50	273,962	.....	276,032	37,698	26,651	7,114	68,136	6,838	146,437	53.1	129,595	107,249	63,733	77,345
	4 mos.	50	1,336,319	.....	1,346,692	90,027	101,802	28,128	317,768	34,983	572,740	42.5	773,952	653,667	431,563	437,216
Detroit, Toledo & Ironton	April	472	728,432	245	754,644	81,681	92,148	10,890	151,641	19,242	355,557	47.1	399,087	338,300	284,802	193,266
	4 mos.	472	3,463,998	1,153	3,594,705	310,343	394,810	42,986	648,568	95,880	1,486,591	41.4	2,108,114	1,807,347	1,537,596	973,061
Duluth, Missabe & Northern	April	560	127,104	1,944	156,735	101,747	168,244	3,141	143,697	51,644	468,473	298.9	—311,738	—408,847	—408,436	—556,721
	4 mos.	560	299,011	11,952	388,773	385,892	663,082	12,325	519,346	198,647	1,779,278	457.7	—1,390,505	—1,557,575	—1,556,659	—1,832,508
Duluth, Winnipeg & Pacific	April	178	75,887	2,137	80,450	19,404	14,762	1,709	38,610	4,012	78,497	97.6	1,953	—2,440	—14,464	206
	4 mos.	178	308,105	8,222	325,828	65,764	60,723	6,763	161,519	15,598	310,367	95.3	15,461	—1,228	—35,102	10,675
Elgin, Joliet & Eastern	April	446	1,079,596	.....	1,196,045	119,025	283,344	13,425	433,974	41,147	890,727	74.5	305,318	216,030	206,837	169,153
	4 mos.	446	4,316,237	4	4,755,777	376,268	994,175	52,577	1,677,509	229,944	3,330,266	70.0	1,425,511	1,066,391	969,905	303,439
Erie Railroad	April	2,304	5,137,782	389,719	6,038,018	541,071	1,244,656	164,356	2,290,005	295,192	4,549,498	75.3	1,488,520	1,152,514	901,999	929,049
	4 mos.	2,304	20,383,181	1,556,321	23,780,411	1,842,692	4,844,873	646,583	9,141,838	1,162,985	17,672,972	74.3	6,107,439	4,765,923	3,790,882	4,808,740
New Jersey & New York	April	45	15,820	48,541	66,171	6,074	23,703	1,200	50,131	2,963	84,071	127.1	—17,900	—22,050	—37,962	—33,859
	4 mos.	45	58,486	196,299	261,702	21,469	97,184	4,737	196,355	12,193	331,938	126.8	—70,236	—86,845	—151,200	—136,556
New York, Susquehanna & Western	April	215	270,582	24,640	313,000	27,517	50,796	5,059	124,034	12,629	220,013	70.3	92,987	70,576	44,654	33,431
	4 mos.	215	1,097,150	98,531	1,266,438	95,902	224,216	19,174	525,583	50,228	915,081	72.3	351,357	260,552	119,757	225,817
Florida East Coast	April	811	747,336	213,694	1,069,373	130,120	168,208	21,897	293,029	40,301	667,011	62.4	402,362	327,261	251,888	279,398
	4 mos.	811	2,141,879	1,244,367	3,876,051	516,597	583,735	90,490	1,207,764	202,772	2,678,694	69.1	1,197,357	896,961	683,111	1,194,591
Fort Smith & Western	April	249	45,777	952	49,792	14,416	8,169	5,590	18,409	4,199	50,932	102.3	—1,140	—2,525	—8,129	—9,204
	4 mos.	249	201,746	3,260	218,509	57,157	37,636	21,554	75,176	15,902	208,022	95.2	10,487	3,417	—17,198	—12,046
Georgia Railroad	April	329	238,672	14,416	280,200	28,706	49,751	17,457	118,075	11,288	225,813	80.6	54,387	49,047	59,801	42,690
	4 mos.	329	876,947	48,617	1,022,227	100,425	202,715	66,279	451,945	46,536	869,489	85.1	152,738	131,331	172,488	182,448
Georgia & Florida	April	408	73,150	1,935	79,540	22,704	15,936	8,351	31,669	5,486	84,146	105.8	—4,606	—9,199	—9,373	—5,196
	4 mos.	408	311,828	7,333	335,163	76,633	61,417	31,128	128,190	27,935	325,281	97.1	9,882	—8,481	—13,603	—7,096
Grand Trunk Western	April	1,006	1,652,541	55,058	1,838,966	234,640	363,863	31,965	735,346	86,235	1,455,455	79.2	383,511	306,723	189,412	162,996
	4 mos.	1,006	6,038,143	234,853	6,735,346	702,930	1,408,413	126,182	2,817,666	328,764	5,397,457	80.1	1,337,889	1,030,603	524,654	526,107
Canadian Nat'l Lines in New Eng.	April	172	67,986	3,055	78,256	22,965	18,064	2,478	63,008	8,303	115,119	147.1	—36,863	—48,163	—87,432	—63,701
	4 mos.	172	311,261	19,481	360,914	85,467	77,273	9,734	244,649	34,754	454,254	125.8	—93,340	—138,536	—287,842	—253,814
Great Northern	April	8,282	4,828,257	255,175	5,527,797	406,229	996,797	179,605	1,916,932	Cr. 554,568	2,992,424	54.1	2,535,373	1,956,030	1,882,960	552,935
	4 mos.	8,304	16,537,613	1,118,442	19,353,770	1,681,677	3,922,221	637,271	7,858,876	296,721	14,565,659	75.3	4,788,111	2,549,148	2,008,926	1,131,406
Green Bay & Western	April	234	123,568	1,006	129,022	24,717	14,013	5,214	44,786	5,944	94,674	73.3	34,348	27,813	23,655	2,543
	4 mos.	234	452,453	4,247	472,683	88,538	58,417	20,006	180,455	22,457	369,873	78.2	102,810	78,695	67,781	5,575
Gulf & Ship Island	April	259	97,599	7,646	126,388	17,602	19,364	2,960	53,827	4,778	99,041	78.4	27,347	12,686	2,000	—2,297
	4 mos.	259	327,650	31,501	434,307	64,889	68,863	12,241	209,813	20,410	378,532	87.2	55,775	—1,781	—36,200	—18,980

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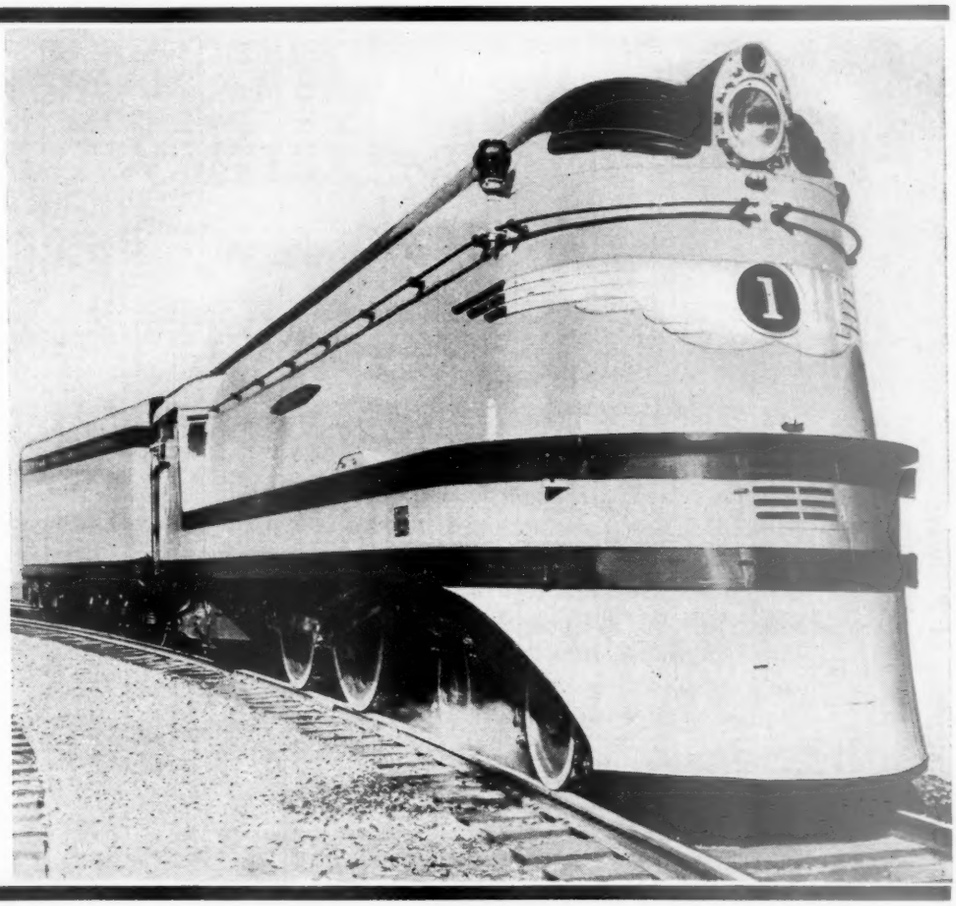
WHY STEAM?



STEAM WAS CHOSEN FOR FIVE VERY SOUND REASONS:

First: We can secure most easily and economically with steam all the speed that any railroad will dare use for many years to come.

Second: The required horsepower will be secured at one quarter of the initial investment of any other choice — a sound economic factor today.

Third: The full horsepower output of the steam unit is available at or near the cruising speed. This is practically essential in high speed work.

Fourth: With the surplus power available under steam the railroad has a flexibility or margin of power which makes it possible to attach more cars when the demand arises.

Fifth: A power unit capable of being maintained and operated with present railway facilities and organization.

AMERICAN LOCOMOTIVE COMPANY

ALCO

30 CHURCH STREET · NEW YORK · N·Y·

Revenues and Expenses of Railways

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Gulf, Mobile & Northern	April	936	$462,458	$17,509	$499,700	$57,420	$66,921	$32,263	$141,090	$33,050	$330,944	66.23	$168,756	$138,754	$88,773	$75,216
	4 mos.	936	1,647,362	71,641	1,797,354	224,671	285,115	123,192	565,513	128,842	1,328,134	73.89	469,220	348,612	169,655	191,692
Illinois Central	April	4,980	5,544,347	607,454	7,014,180	593,156	1,420,536	200,149	2,688,369	337,058	5,285,092	75.3	1,729,088	1,271,733	1,184,183	1,206,547
	4 mos.	4,980	22,537,644	2,692,042	27,634,171	2,217,425	6,330,146	815,176	10,749,304	1,333,542	21,632,350	78.3	6,001,821	4,189,857	3,910,912	4,557,080
Yazoo & Mississippi Valley	April	1,635	732,608	64,194	875,749	74,882	144,746	30,132	403,816	49,979	703,407	80.3	172,342	54,264	—26,468	—55,186
	4 mos.	1,635	3,048,955	237,200	3,570,907	309,815	691,007	121,935	1,617,742	199,568	2,941,661	82.4	629,246	161,303	—122,212	46,163
Illinois Central System	April	6,616	6,276,955	671,648	7,889,929	668,038	1,565,282	230,281	3,092,185	387,037	5,988,499	75.9	1,901,430	1,322,479	1,165,215	1,161,069
	4 mos.	6,616	25,586,599	2,929,242	31,205,078	2,527,240	7,021,153	937,111	12,367,046	1,533,110	24,574,011	78.8	6,631,067	4,338,606	3,819,775	4,642,317
Illinois Terminal	April	525	329,047	62,497	427,411	43,513	63,622	16,803	150,120	15,634	291,289	68.15	136,122	110,444	94,022	65,578
	4 mos.	525	1,294,869	238,999	1,673,603	153,010	258,543	60,849	598,771	83,463	1,161,030	69.37	512,573	409,646	342,804	277,615
Kansas City Southern	April	878	658,825	18,008	773,977	79,176	137,218	48,915	265,524	62,127	591,876	76.5	182,101	115,708	71,743	143,144
	4 mos.	878	2,596,533	67,085	3,029,580	298,817	551,117	192,853	1,039,792	313,221	2,398,411	79.2	631,169	373,865	238,166	442,397
Kansas, Oklahoma & Gulf	April	326	158,334	342	161,640	27,260	19,533	7,255	42,648	8,418	104,914	64.9	56,726	44,715	27,181	56,320
	4 mos.	326	615,201	1,480	626,944	60,776	78,439	29,488	154,755	37,690	359,700	57.2	267,244	217,365	155,224	209,556
Lake Superior & Ishpeming	April	160	74,132	117	82,916	22,638	25,938	635	25,188	7,669	82,068	99.0	848	—12,374	—13,937	—45,541
	4 mos.	160	170,810	465	184,642	78,307	101,217	2,467	85,043	29,694	296,728	160.7	—112,086	—164,976	—171,826	—187,860
Lehigh & Hudson River	April	96	125,514	236	127,062	10,956	22,793	3,211	43,122	Cr. 5,444	74,638	58.7	52,424	39,072	26,314	9,642
	4 mos.	96	496,799	607	505,156	40,636	87,253	12,807	172,974	22,616	336,286	66.6	168,870	121,247	70,644	61,916
Lehigh & New England	April	219	294,303	299	297,572	28,197	56,768	5,477	107,666	20,997	219,105	73.6	78,467	80,148	83,608	27,253
	4 mos.	220	1,079,305	1,158	1,088,419	112,779	233,451	21,715	409,026	81,547	858,517	78.9	229,902	204,057	234,008	315,130
Lehigh Valley	April	1,354	3,093,982	202,821	3,549,599	216,197	587,102	110,722	1,521,375	138,759	2,589,623	73.0	959,976	764,541	692,627	413,385
	4 mos.	1,354	11,846,765	780,403	13,456,019	780,674	2,442,653	436,250	6,144,735	543,857	10,408,376	76.8	3,137,643	2,396,198	1,840,329	2,572,685
Louisiana & Arkansas	April	608	355,228	7,748	389,597	48,066	77,446	25,253	104,214	11,165	265,902	68.3	123,695	89,286	80,591	73,996
	4 mos.	608	1,295,256	32,605	1,425,848	177,464	268,647	94,700	373,401	82,308	994,652	69.8	431,196	298,361	264,003	310,812
Louisiana, Arkansas & Texas	April	255	72,948	198	75,685	20,221	7,311	4,852	26,778	5,622	64,784	85.6	10,901	8,401	—3,004	883
	4 mos.	255	285,036	866	294,452	77,422	34,160	18,805	103,200	22,879	256,466	87.1	37,986	29,506	—16,357	8,541
Louisville & Nashville	April	5,058	4,996,033	432,605	6,004,716	714,154	1,359,452	175,275	2,174,236	263,846	4,723,189	78.7	1,281,527	949,987	926,115	853,686
	4 mos.	5,051	20,218,819	1,862,299	24,121,718	2,662,715	5,404,601	694,301	8,807,879	1,091,208	18,826,291	78.0	5,295,427	3,968,193	4,036,508	5,258,991
Maine Central	April	1,055	762,991	68,926	914,297	141,272	130,843	12,839	352,363	40,299	677,606	74.1	236,691	188,400	135,866	82,441
	4 mos.	1,047	3,264,402	306,955	3,987,877	642,197	636,293	43,748	1,562,251	153,907	3,038,358	78.0	859,519	665,567	394,808	261,595
Midland Valley	April	361	97,081	14	99,018	16,546	11,754	2,549	27,178	6,329	63,804	64.4	35,214	27,723	20,135	28,537
	4 mos.	361	397,281	39	405,034	50,907	43,372	9,803	111,589	30,060	244,966	60.5	160,068	130,129	92,931	109,283
Minneapolis & St. Louis	April	1,647	554,873	12,585	605,379	73,200	124,653	30,731	283,694	36,719	549,030	90.7	56,349	36,492	18,683	—44,059
	4 mos.	1,647	2,011,639	52,927	2,212,148	219,187	495,489	107,745	1,185,528	154,303	2,160,918	97.7	51,230	—35,039	—123,124	—31,287
Minn., St. Paul & S. S. Marie	April	4,297	1,615,978	77,923	1,838,147	226,233	409,240	61,310	801,864	147,284	1,649,732	89.7	188,415	48,114	—72,903	59,303
	4 mos.	4,297	5,555,009	284,168	6,373,071	932,990	1,429,331	228,588	3,215,398	574,475	6,393,896	100.3	—20,825	—490,701	—937,838	—399,512
Duluth, South Shore & Atlantic	April	556	148,926	10,722	174,068	23,955	38,811	4,279	71,837	9,757	148,374	85.2	25,694	23,120	12,691	10,653
	4 mos.	556	531,845	39,558	618,276	98,666	133,867	17,500	298,165	37,291	584,730	94.6	33,546	2,199	—33,248	—63,402
Spokane International	April	163	32,491	1,380	38,989	12,540	5,517	1,775	19,336	4,284	43,452	111.5	—4,463	—7,379	—10,426	—7,492
	4 mos.	163	117,383	7,714	145,396	33,075	23,276	7,090	75,242	20,052	158,695	109.2	—13,299	—24,936	—34,411	—33,064
Mississippi Central	April	150	56,625	1,467	60,261	8,205	10,450	7,124	18,735	6,187	50,701	84.1	9,560	6,732	3,107	4,788
	4 mos.	150	201,796	5,883	215,687	30,727	43,251	27,496	72,122	25,979	199,575	92.5	16,112	4,865	—8,892	7,851
Missouri and Arkansas	April 16-30	364	37,643	414	41,092	8,428	3,530	1,887	12,649	2,288	28,782	70.0	12,310	11,534	7,459	.....
	4 mos.	....	.....	.....	.....	.....	....	.....	.....	.....	.....	....	.....	.....	.....	.....
Missouri & North Arkansas	April 1 to 15	364	47,836	686	51,514	9,135	10,417	2,030	14,299	872	36,753	71.3	14,761	13,895	8,273	.....
	4 mos.	364	235,320	3,540	259,707	59,588	36,423	12,972	96,543	21,023	226,549	87.2	33,158	27,486	—6,874	.....
Missouri-Illinois	April	208	90,514	669	92,751	16,164	13,243	3,005	29,325	5,471	67,208	72.5	25,543	20,243	12,287	2,614
	4 mos.	208	328,808	2,721	338,351	58,494	47,424	11,139	113,895	26,163	256,413	75.8	81,938	59,527	27,130	30,058
Missouri-Kansas-Texas Lines	April	3,293	1,789,342	137,057	2,174,181	315,290	391,406	113,952	830,141	134,332	1,799,603	82.8	374,578	207,381	17,596	217,120
	4 mos.	3,293	6,436,573	583,913	7,963,352	1,111,234	1,629,802	432,171	3,176,303	594,112	7,004,435	88.0	958,917	289,280	—426,270	224,143
Missouri Pacific	April	7,235	5,049,181	306,355	5,969,947	916,012	1,305,148	224,959	2,305,062	258,837	5,054,131	84.7	915,816	590,628	213,477	501,911
	4 mos.	7,235	19,584,795	1,244,485	23,060,708	3,192,838	5,043,319	886,435	9,076,488	1,380,545	19,728,870	85.6	3,331,838	2,028,675	591,745	2,472,784
Gulf Coast Lines	April	1,763	845,973	30,825	939,943	136,212	164,943	40,962	290,416	46,112	680,034	72.35	259,909	207,436	112,644	200,617
	4 mos.	1,763	3,296,678	123,676	3,675,572	494,491	620,698	167,695	1,114,990	237,730	2,638,745	71.79	1,036,827	838,581	425,699	695,980
International-Great Northern	April	1,154	769,478	45,766	930,169	138,483	191,505	28,391	393,291	44,737	807,399	86.80	122,770	87,971	1,233	117,280
	4 mos.	1,154	3,103,043	211,633	3,778,129	539,036	704,478	113,268	1,522,913	235,208	3,161,739	83.69	616,390	477,143	94,889	497,959
San Antonio, Uvalde & Gulf	April	316	79,535	2,937	89,704	20,542	12,854	4,356	27,866	5,919	71,537	79.7	18,167	14,598	—6,497	3,399
	4 mos.	316	272,162	10,801	315,210	71,207	44,412	17,905	114,881	24,911	272,804	86.5	42,406	27,766	—54,294	67,146
Mobile & Ohio	April	1,201	610,212	20,418	676,570	105,723	159,940	39,755	288,040	39,952	635,215	93.9	41,355	8,422	—50,324	5,269
	4 mos.	1,201	2,344,270	88,356	2,610,224	413,170	563,577	150,200	1,126,195	204,823	2,463,236	94.4	146,988	17,689	—211,837	33,255

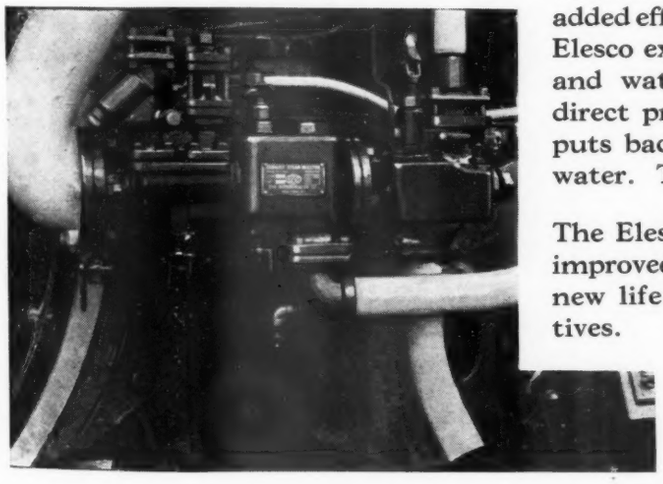
Continued on next left-hand page

A Fact that Seems Impossible

EXHAUST STEAM AT 8 LB. PRESSURE Injects Feed Water Into Boiler Against 195 lb. Pressure

IT DOES sound miraculous—but it is being done every day on locomotives by the Elesco exhaust steam injector.

The operating principle of the Elesco exhaust steam injector is a well-known scientific fact. When steam is condensed, a vacuum is created; the amount of vacuum being dependent on the temperature of the water from the tank. With skillful design, such as is embodied in the Elesco exhaust steam injector, enough momentum is obtained from the expansion of steam at exhaust pressures to force the mixture of the steam with the water in which it condenses against normal boiler pressures.



The use of exhaust steam is the reason for the added efficiency and economy provided by the Elesco exhaust steam injector. It saves fuel and water or increases boiler capacity in direct proportion to the waste heat that it puts back into the boiler through the feed water. The economy is from 8 to 10 per cent.

The Elesco exhaust steam injector provides improved operation for new power. It means new life for existing underboilered locomotives.

THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, Inc.

60 East 42nd Street
NEW YORK

Peoples Gas Building
CHICAGO

A-938

Canada: The Superheater Company, Limited, Montreal

Superheaters - Feed Water Heaters - Exhaust Steam Injectors - Superheated Steam Pyrometers - American Throttles

Revenues and Expenses of Railways

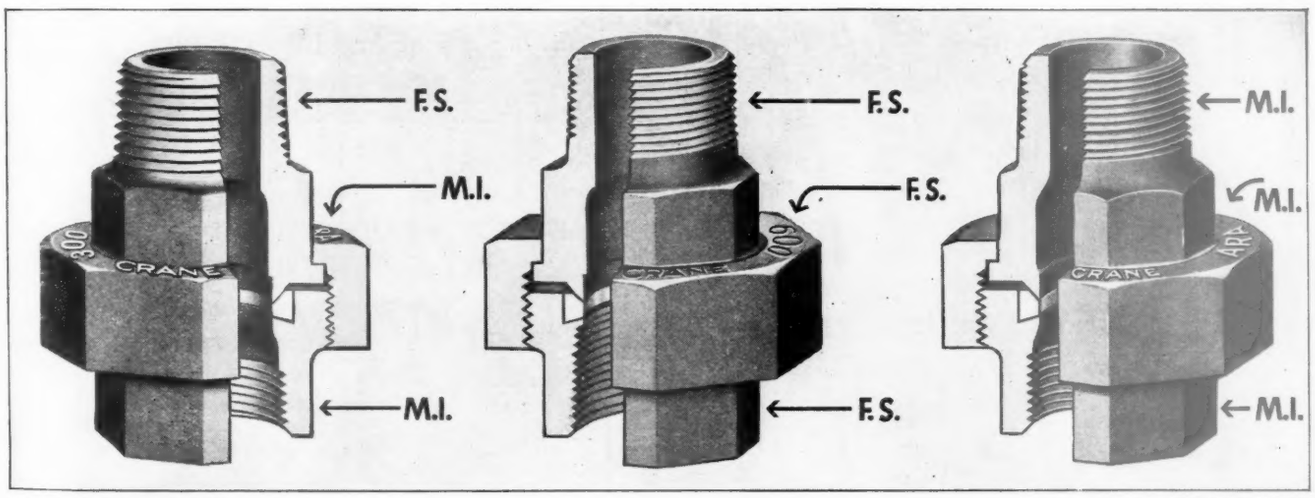
MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Monongahela	April	174	$212,050	$861	$214,461	$24,653	$21,003	$446	$55,058	$4,518	$105,441	49.2	$109,020	$90,910	$17,833	—$12,768
	4 mos.	174	1,296,078	3,539	1,308,883	103,898	113,865	1,720	295,363	14,833	529,226	40.4	779,657	707,293	371,786	450,366
Montour	April	57	103,678	.....	104,749	9,467	31,221	967	28,069	6,247	75,971	72.5	28,778	21,498	41,969	44,703
	4 mos.	57	553,316	.....	557,266	37,384	128,698	3,632	144,783	25,272	339,769	61.0	217,497	168,146	235,946	198,575
Nashville, Chattanooga & St. Louis	April	1,184	647,245	64,250	1,139,764	146,905	270,910	57,106	444,135	55,399	978,820	85.9	160,944	125,791	90,411	112,235
	4 mos.	1,189	3,358,458	318,505	4,183,734	531,888	1,029,912	234,505	1,715,581	223,707	3,757,736	89.8	425,998	284,151	159,387	571,342
Nevada Northern	April	165	23,340	824	28,732	8,860	3,228	907	7,657	4,267	24,919	86.1	3,813	—2,947	988	5,736
	4 mos.	165	95,707	3,386	116,870	35,360	12,446	2,917	32,005	17,159	99,887	85.5	16,983	—9,715	5,901	5,931
New York Central	April	11,392	18,004,034	4,109,590	25,180,954	2,359,524	5,668,613	518,821	9,502,521	1,013,326	19,385,556	77.0	5,795,398	3,883,763	2,482,306	2,587,046
	4 mos.	11,392	71,400,743	17,620,811	100,465,725	9,026,353	21,878,116	2,041,130	38,576,944	4,060,330	77,017,679	76.9	23,448,046	15,638,093	10,608,652	10,798,240
Pittsburgh & Lake Erie	April	233	1,075,782	41,927	1,153,769	88,577	361,834	24,468	451,139	67,578	1,002,520	86.9	151,249	62,873	190,291	215,530
	4 mos.	233	4,630,621	183,089	4,981,137	351,627	1,752,138	101,796	1,806,095	267,518	4,131,519	82.9	849,618	456,959	1,030,777	976,363
New York, Chicago & St. Louis	April	1,691	2,487,696	52,697	2,635,165	283,064	380,928	104,805	971,137	128,390	1,867,185	70.9	767,980	667,952	427,860	548,547
	4 mos.	1,691	10,562,520	221,664	11,153,300	988,618	1,647,720	415,851	3,965,081	496,658	7,517,766	67.4	3,635,534	3,105,585	2,124,815	2,424,359
N. Y., New Haven & Hartford	April	2,068	3,514,378	1,708,627	5,911,246	565,997	984,333	80,442	2,290,397	237,232	4,294,462	72.6	1,616,784	1,216,747	709,557	687,457
	4 mos.	2,068	13,158,131	7,159,006	23,007,074	2,453,978	3,647,069	296,510	9,137,600	912,404	17,031,813	74.0	5,975,261	4,524,012	2,474,138	2,448,924
New York Connecting	April	20	196,214	.....	209,057	9,182	7,137	.....	23,633	1,305	41,257	19.7	167,800	133,800	95,483	84,951
	4 mos.	20	896,176	.....	935,118	48,526	26,383	.....	124,862	4,404	204,175	21.8	730,943	594,443	460,439	495,244
New York, Ontario & Western	April	567	639,283	7,964	693,655	61,288	99,490	11,851	281,693	21,859	479,322	69.1	214,333	177,333	145,469	51,959
	4 mos.	567	2,551,983	28,861	2,803,042	245,466	486,873	45,258	1,256,265	97,142	2,145,311	76.5	657,731	506,027	332,245	449,100
Norfolk & Western	April	2,168	5,363,424	139,174	5,716,800	667,766	1,307,661	118,310	1,438,301	122,866	3,665,198	64.1	2,051,602	1,363,335	1,590,267	1,901,665
	4 mos.	2,171	22,734,375	530,410	24,100,977	2,831,196	5,025,859	456,253	5,894,190	1,009,495	15,260,135	63.3	8,840,842	6,087,704	6,799,389	7,577,924
Norfolk Southern	April	932	349,368	9,087	378,750	109,060	51,812	21,562	149,415	Cr. 40,563	291,286	76.9	87,464	61,701	32,908	52,023
	4 mos.	932	1,355,696	32,936	1,467,270	300,866	207,373	83,211	570,170	48,631	1,210,251	82.5	257,019	154,009	50,916	105,378
Northern Pacific	April	6,722	3,612,050	216,959	4,198,479	653,536	1,032,214	175,263	1,644,104	187,804	3,753,771	89.4	444,708	—964	333,038	279,996
	4 mos.	6,722	12,710,311	898,973	15,084,237	1,825,319	3,896,289	598,339	6,644,791	1,241,409	14,442,792	95.8	641,445	—1,120,657	155,153	1,317,741
Northwestern Pacific	April	375	132,871	72,887	242,553	44,844	49,510	4,245	148,679	14,202	261,069	107.6	—18,516	—33,829	—42,256	—17,174
	4 mos.	375	492,323	263,690	881,371	146,030	200,333	15,482	566,065	56,756	983,451	111.6	—102,080	—163,369	—194,879	—112,956
Oklahoma City-Ada-Atoka	April	132	33,798	362	36,228	9,785	1,024	797	11,147	2,042	24,795	68.4	11,433	10,262	3,149	—29
	4 mos.	132	136,503	1,265	146,256	31,836	4,023	3,076	43,234	8,365	90,534	61.9	55,722	48,100	19,610	—79
Pennsylvania Railroad	April	10,481	21,164,394	5,086,388	29,334,252	2,313,121	5,236,080	584,088	10,713,266	1,442,816	20,682,699	70.5	8,651,553	6,341,156	5,618,544	5,155,210
	4 mos.	10,481	86,003,398	20,211,799	117,266,770	9,439,598	22,829,835	2,317,408	43,540,924	5,645,194	85,302,542	72.7	31,964,228	24,150,888	21,325,516	20,299,684
Long Island	April	396	605,393	1,276,502	1,961,754	152,663	331,828	13,867	945,125	57,955	1,501,438	76.5	460,316	257,775	88,763	111,033
	4 mos.	396	2,016,437	4,977,160	7,342,758	806,109	1,379,487	50,417	3,764,789	228,451	6,229,247	84.8	1,113,511	518,324	—157,755	406,416
Pennsylvania Reading Seashore Lines	April	413	233,215	145,713	399,234	55,204	82,650	8,251	274,141	25,762	446,911	111.9	—47,677	—122,152	—192,085	—220,841
	4 mos.	413	915,440	482,353	1,479,378	267,584	357,650	28,640	1,074,319	105,266	1,836,831	124.2	—357,453	—631,015	—897,805	—813,765
Pere Marquette	April	2,129	2,136,490	45,006	2,294,804	231,718	497,360	61,612	860,701	90,744	1,745,717	76.1	549,087	478,703	357,469	305,075
	4 mos.	2,129	8,551,747	206,015	9,155,624	890,362	1,959,113	243,522	3,406,771	356,524	6,870,596	75.0	2,285,028	1,892,688	1,479,344	1,479,869
Pittsburg & Shawmut	April	101	29,252	511	30,661	10,782	21,519	1,396	14,466	Cr. 5,081	43,082	140.5	—12,421	—12,801	—9,283	—9,294
	4 mos.	101	241,870	2,152	247,193	41,837	78,370	5,581	81,129	9,777	216,694	87.7	30,499	29,009	37,779	64,702
Pittsburgh & West Virginia	April	138	189,435	.....	200,008	21,076	53,252	13,053	47,093	12,178	155,621	77.8	44,387	33,818	53,195	82,832
	4 mos.	138	907,534	.....	953,847	84,012	225,471	51,689	207,025	62,742	670,610	70.3	283,237	218,864	311,475	340,699
Pittsburg, Shawmut & Northern	April	190	86,618	128	88,116	17,930	16,180	1,529	29,630	373	65,642	74.5	22,474	20,325	14,944	7,719
	4 mos.	190	340,250	593	347,115	56,671	72,806	5,414	134,816	25,137	294,844	84.9	52,271	43,634	18,444	41,816
Reading	April	1,459	3,983,590	247,719	4,451,282	312,961	666,574	72,644	1,673,666	208,598	2,953,473	66.4	1,497,809	1,133,036	1,107,331	962,700
	4 mos.	1,460	15,582,525	1,031,062	17,541,936	1,244,279	3,234,938	291,200	6,864,470	897,211	12,596,847	71.8	4,945,089	3,759,922	3,797,909	5,254,506
Richmond, Fredericksburg & Potomac	April	117	303,700	169,922	608,176	57,757	122,678	8,588	259,347	Cr. 63,042	401,532	66.0	206,644	167,894	113,830	34,768
	4 mos.	117	1,000,830	764,406	2,378,234	203,580	481,316	34,370	983,528	73,190	1,838,243	77.3	539,991	416,846	249,054	238,101
Rutland	April	407	192,662	30,683	276,316	48,900	54,058	10,156	131,565	14,192	258,871	93.7	17,445	—2,226	78	11,229
	4 mos.	407	682,233	130,325	1,016,423	167,194	226,986	42,606	539,903	57,166	1,033,341	101.7	—16,918	—95,333	—80,021	—28,187
St. Louis-San Francisco	April	5,042	2,774,440	183,006	3,274,048	583,586	836,173	108,407	1,260,426	161,364	2,964,828	90.6	309,220	69,491	71,353	45,737
	4 mos.	5,045	10,272,838	769,831	12,231,643	2,167,460	3,143,814	386,981	4,865,400	814,402	11,422,514	93.4	809,129	—155,440	—146,446	1,132,890
Ft. Worth & Rio Grande	April	233	26,814	1,244	34,255	11,709	9,977	2,623	23,502	3,635	51,446	150.2	—17,191	—21,175	—25,973	—30,584
	4 mos.	233	93,621	4,600	123,574	44,464	36,533	10,274	90,475	18,253	199,983	161.8	—76,409	—92,432	—110,879	—105,235
St. Louis, San Francisco & Texas	April	261	84,792	452	88,980	28,222	16,043	4,947	40,352	7,099	96,681	108.7	—7,701	—13,085	—37,617	—34,240
	4 mos.	261	268,527	1,601	284,180	107,422	59,723	18,692	148,154	33,689	367,691	129.4	—83,511	—100,110	—192,791	—151,151
St. Louis Southwestern Lines	April	1,786	1,290,412	13,823	1,360,618	147,802	177,646	73,752	437,917	60,463	904,058	66.4	456,560	385,624	252,921	197,704
	4 mos.	1,786	4,935,172	58,876	5,207,014	550,499	705,542	286,732	1,684,582	237,270	3,489,106	67.0	1,717,908	1,437,835	947,735	552,464
San Diego & Arizona Eastern	April	155	30,988	5,455	37,601	11,921	7,764	1,715	19,373	4,271	45,619	121.3	—8,018	—11,909	—10,098	—6,711
	4 mos.	155	123,766	19,592	148,566	42,764	32,173	7,654	75,795	17,601	178,307	120.0	—29,741	—43,299	—38,739	3,729

Continued on next left-hand page

CRANE A. A. R. UNIONS

A feature of Crane railroad valves and fittings is their adaptability to their task. A case in point is the Crane malleable iron union with steel male tailpiece, designed after a study of the effects of severe vibration and strain upon malleable iron tailpieces. Where all-steel unions are unnecessary, this union bridges the gap between all-iron and all-steel requirements. Crane Co. is the only manufacturer making forged steel A.A.R. unions and male tailpieces of forged steel for use with malleable iron A.A.R. unions, thus providing equipment that will stand unusually severe vibration and high temperatures.



M. I.—MALLEABLE IRON F. S.—FORGED STEEL

Crane 919½-E Malleable Iron Union with forged steel tailpiece for 300 lbs. steam working pressure at 500° F. Brass to steel seat. Ground joint. All parts made to A. A. R. specifications.

Crane 253-H All-Steel Forged Union for 600 lbs. steam or oil at 600° F. Brass to steel seat. Ground joint. Made to A.A.R. specifications.

Crane 819½-E Malleable Union for 300 lbs. steam working pressure at 500° F. Brass to iron seat. Ground joint. Made to A.A.R. specifications.

CRANE

CRANE CO., GENERAL OFFICES: 836 S. MICHIGAN AVE., CHICAGO, ILLINOIS • NEW YORK: 23 W. 44TH STREET

Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

Revenues and Expenses of Railways

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1935—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	General	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income	Net ry. operating income, 1934
Seaboard Air Line	April	4,307	$2,737,289	$280,570	$3,406,045	$420,182	$609,650	$141,471	$1,189,543 Cr.	$332,815	$2,066,396	60.7	$1,339,649	$1,089,547	$933,999	$390,936
	4 mos.	4,307	9,726,219	1,453,436	12,597,379	1,668,436	2,362,186	558,409	4,546,213	254,445	9,563,622	75.9	3,033,757	2,040,036	1,543,580	1,601,152
Southern Ry.	April	6,644	5,421,833	640,196	6,760,610	875,040	1,296,685	143,646	2,497,585	255,785	5,114,174	75.6	1,646,436	1,266,793	1,044,840	1,268,307
	4 mos.	6,644	21,500,394	2,527,969	26,561,601	3,408,606	5,010,029	580,090	9,994,020	985,594	20,155,103	75.9	6,406,498	4,683,767	3,890,502	5,249,521
Alabama Great Southern	April	315	351,063	40,526	428,074	92,708	100,224	9,849	143,271	15,991	364,723	85.2	63,351	34,127	16,174	57,233
	4 mos.	315	1,283,099	154,315	1,573,148	334,956	394,136	41,044	558,006	59,856	1,398,711	88.9	174,437	62,514	28,601	233,279
Cinn., New Orleans & Texas Pacific	April	336	957,730	60,322	1,087,680	180,557	205,813	25,081	287,916	38,006	742,326	68.2	345,354	283,938	238,236	309,957
	4 mos.	336	3,643,578	272,533	4,182,659	664,271	786,504	96,879	1,116,253	148,846	2,833,575	67.7	1,349,084	1,092,813	960,166	1,196,897
Georgia Southern & Florida	April	397	109,402	23,540	153,313	30,106	29,069	1,920	66,446	2,752	132,729	86.6	20,584	8,453	12,932	22,627
	4 mos.	397	396,652	118,847	592,160	113,858	131,282	6,819	269,655	9,901	541,780	91.5	50,380	109	7,340	78,369
New Orleans & Northeastern	April	204	170,010	13,888	199,683	27,918	33,789	5,006	64,090	8,956	141,225	70.7	58,458	36,190	26,992	22,488
	4 mos.	204	605,785	64,199	729,073	112,575	137,647	20,907	256,466	34,023	567,559	77.8	161,514	70,992	28,061	19,860
Northern Alabama	April	99	40,346	1,625	43,870	12,071	1,592	1,339	15,653	1,760	32,415	73.9	11,455	7,777	—3,446	—1,770
	4 mos.	99	178,737	6,225	191,566	43,420	5,854	4,684	66,125	6,812	126,895	66.2	64,671	49,884	986	16,605
Southern Pacific	April	8,796	7,502,987	1,233,923	9,746,544	920,314	1,794,349	315,095	3,692,371	548,613	7,450,414	76.4	2,296,130	1,503,294	1,142,784	963,976
	4 mos.	8,792	27,347,853	5,177,003	36,065,382	3,454,979	6,641,870	1,100,689	13,782,887	2,196,340	27,908,457	77.4	8,156,925	5,005,389	3,769,766	2,348,909
So. Pac. Steamship Lines	April	....	434,825	10,290	466,910	12,100	88,254	17,856	312,446	17,849	448,505	96.1	18,405	17,820	17,688	—48,792
	4 mos.	....	1,489,194	33,066	1,582,507	52,067	350,788	63,356	1,234,083	71,865	1,772,159	112.0	—189,652	—193,913	—194,441	—250,275
Texas & New Orleans	April	4,443	2,286,791	220,950	2,840,363	397,296	546,037	123,917	1,037,096	203,796	2,324,993	81.9	515,370	300,004	109,722	—87,855
	4 mos.	4,443	8,764,895	856,212	10,975,733	1,476,433	2,108,568	464,422	3,996,368	810,846	8,930,192	81.4	2,045,541	1,160,224	375,357	—293,779
Spokane, Portland & Seattle	April	552	437,069	44,928	513,983	43,134	60,966	6,742	168,502	22,142	303,451	59.0	210,532	160,503	138,879	155,441
	4 mos.	552	1,394,003	130,357	1,652,489	140,730	245,472	22,747	579,798	84,126	1,079,749	65.3	572,740	367,129	312,976	386,734
Tennessee Central	April	286	156,173	4,963	171,110	31,161	27,339	5,529	59,270	2,579	125,872	73.6	45,238	41,250	29,690	30,077
	4 mos.	286	659,213	19,641	720,132	112,915	107,863	20,197	254,538	41,931	537,210	74.6	182,922	166,734	117,946	138,330
Texas & Pacific	April	1,949	1,540,361	151,619	1,906,203	187,181	323,998	73,687	588,607	11,163	1,202,587	63.1	703,616	602,356	486,237	328,456
	4 mos.	1,949	5,780,100	592,223	7,210,289	758,243	1,328,299	271,494	2,266,496	421,825	5,117,616	71.0	2,092,673	1,687,054	1,264,906	1,339,707
Texas & Mexican	April	162	98,529	354	109,080	11,403	14,785	3,183	35,525	3,113	67,895	62.2	41,185	37,059	31,091	22,639
	4 mos.	162	400,408	1,514	445,023	58,805	56,960	12,642	135,804	23,408	286,929	64.5	158,094	141,549	112,507	50,201
Toledo, Peoria & Western	April	239	152,347	79	154,265	53,377	11,100	15,222	38,606	9,107	127,412	82.6	26,853	22,748	8,602	—5,479
	4 mos.	239	528,142	117	536,227	141,212	35,417	57,414	151,081	37,607	422,731	78.8	113,496	95,481	42,902	22,701
Union Pacific	April	3,589	4,488,849	408,399	5,394,007	708,919	1,225,703	155,386	1,792,785	190,774	4,163,981	77.2	1,230,026	820,283	636,605	655,116
	4 mos.	3,600	16,545,720	1,540,746	19,930,062	1,822,885	4,801,415	503,330	6,901,097	1,253,687	15,593,384	78.2	4,336,678	2,695,297	1,934,299	2,744,681
Oregon Short Line	April	2,504	1,577,316	86,231	1,799,502	278,248	316,019	41,726	578,792	61,787	1,298,295	72.1	501,207	279,432	193,387	115,551
	4 mos.	2,504	6,073,022	353,797	6,902,150	693,465	1,238,151	133,565	2,330,309	419,734	4,890,108	70.8	2,012,042	1,123,989	798,209	735,627
Oregon-Wash. R. R. & Nav. Co.	April	2,276	1,034,547	87,404	1,254,867	294,149	191,292	57,653	503,912	59,154	1,113,726	88.8	141,141	15,966	—84,002	—51,191
	4 mos.	2,288	3,911,087	350,013	4,737,163	762,648	735,457	196,975	1,948,428	375,435	4,046,360	85.4	690,803	190,148	—164,328	88,164
Los Angeles & Salt Lake	April	1,234	1,150,979	130,187	1,401,309	261,747	225,867	56,477	433,653	39,020	1,052,096	75.1	349,213	234,015	125,046	260,842
	4 mos.	1,234	4,423,279	489,429	5,330,994	673,102	893,561	194,271	1,657,432	247,221	3,793,472	71.2	1,537,522	1,076,735	639,958	724,693
St. Joseph & Grand Island	April	258	212,863	1,882	221,724	47,273	23,023	2,775	77,625	8,275	159,540	72.0	62,184	49,810	24,082	49,332
	4 mos.	258	804,120	6,932	837,066	139,117	88,258	9,793	285,497	52,689	578,285	69.1	258,781	207,273	110,294	241,879
Utah	April	111	66,902	.....	66,991	9,890	22,295	511	16,818	5,212	54,726	81.7	12,265	4,191	—1,746	—19,959
	4 mos.	111	344,540	.....	345,923	44,724	90,058	1,981	83,348	21,785	241,896	69.9	104,027	57,890	33,167	—32,960
Virginian	April	619	936,563	3,256	981,713	86,367	220,434	17,512	204,360	—13,145	515,233	52.5	466,480	346,480	384,595	438,300
	4 mos.	619	4,759,823	12,487	4,982,696	370,457	902,555	69,275	923,824	109,576	2,374,928	47.7	2,607,768	1,997,762	2,154,561	2,220,792
Wabash	April	2,447	3,211,708	150,143	3,602,682	397,877	602,895	139,802	1,333,920	150,614	2,632,889	73.1	969,793	835,630	547,160	448,728
	4 mos.	2,447	12,180,173	655,739	13,726,446	1,363,126	2,334,660	540,066	5,310,070	738,625	10,319,159	75.2	3,407,287	2,863,745	1,632,747	1,588,771
Ann Arbor	April	293	320,063	2,139	329,503	30,149	72,379	11,549	126,894	12,565	253,621	77.0	75,882	62,211	40,831	41,934
	4 mos.	293	1,221,661	8,894	1,258,217	92,034	263,298	44,763	518,310	62,678	981,040	78.0	277,177	223,298	151,403	104,942
Western Maryland	April	883	1,014,016	7,158	1,063,288	126,003	307,701	37,858	300,701	49,883	825,924	77.7	237,364	177,364	213,183	271,212
	4 mos.	883	4,776,169	25,701	4,968,643	550,032	1,252,320	145,797	1,310,847	189,433	3,467,177	69.8	1,501,446	1,261,466	1,378,567	1,496,628
Western Pacific	April	1,213	803,749	8,553	861,705	172,199	168,482	53,686	398,363	40,290	855,735	99.3	5,970	—54,622	—87,024	122,171
	4 mos.	1,213	3,183,626	76,832	3,404,538	553,585	660,192	212,284	1,477,857	199,624	3,164,795	93.0	239,743	—21,145	—150,791	232,273
Wheeling & Lake Erie	April	511	922,439	1,212	974,275	180,040	256,604	31,251	306,710	29,646	804,181	82.5	170,094	98,925	88,101	97,498
	4 mos.	511	3,962,353	5,476	4,172,927	532,358	1,314,171	119,881	1,261,308	167,637	3,395,058	81.4	777,869	480,985	430,863	667,672
Wichita Falls & Southern	April	203	35,015	26	39,713	7,941	6,538	1,763	13,146	3,187	32,575	82.03	7,138	4,878	2,078	6,827
	4 mos.	203	134,312	144	150,924	33,315	26,228	6,772	51,151	15,477	132,943	88.09	17,981	8,940	—997	17,144